SPECIFICATIONS OF ADVERTISERS

ADVERTISEMENT

(Concluded from page 27, column 3)

Ottenheimer Bros., Inc., Fallsway and Hillen Streets Baltimore, Md.

(See advertisement on page 5 of yellow section)

Model No.	No. of Doors	Capacity Cu. Ft.	Shelves Sq. Ft.	Length Feet	Depth Inches	Height Inches
580	2	21	10	6	35	48⅞
	4	28	14	8	35	48⅞
	4	36	17	10	35	48⅞
	6	43	22	12	35	48⅞
	6	51	25	14	35	48⅞

Exterior: Golden oak. Interior: Rust resisting metal, white enamel. Insulation: Ottenheimer Bros Inc. patented fibrocel construction. Hardware: Brass. Two thicknesses double strength glass. Sliding doors rear. No compartment for compressor unit.

831	2	23	10	6	37	48⅝
	4	31	13	8	37	48⅝
	4	39	17	10	37	48⅝
	6	48	21	12	37	48⅝
	6	56	24	14	37	48⅝

Exterior: White or jade green porcelain trimmed with monel metal. Dark green porcelain base board. Interior: Rust resisting metal, white enamel. Insulation: Ottenheimer Bros. Inc. patented fibrocel construction. Hardware: Bronze, nickel plated. One thickness plate glass, and one thickness double strength glass. Sliding doors rear. No compartment for compressor unit.

899 and 930	2	22	10	6	38¾	48
	4	30	13	8	38¾	48
	4	39	17	10	38¾	48
	6	47	21	12	38¾	48
	6	55	24	14	38¾	48

No. 899. Exterior: Golden oak. Interior: Rust resisting metal, white enamel. Insulation: Ottenheimer Bros. Inc. patented fibrocel construction. Hardware: Brass. Two thicknesses plate glass. Sliding doors rear. No compartment for compressor unit.

No. 930. Exterior: White or jade green porcelain trimmed with monel metal, marbleoid base. Interior: Rust resisting metal, white enamel. Insulation: Ottenheimer Bros. Inc. patented fibrocel construction. Hardware: Bronze nickel plated. Two thicknesses plate glass. Sliding doors rear. No compartment for compressor unit.

Reolite	2	13	7	4½	37–3/16	46
	2	18	10	6	37–3/16	46

Exterior: White or green porcelain. Interior: Rust resisting metal, white enamel. Insulation: Ottenheimer Bros., Inc., patented fibrocel construction. Hardware: Bronze nickel plated. One thickness plate glass. Sliding doors doors rear. No compartment for compressor unit.

323	4	39	31	6¼	30	56
	7	54	48	6⅓	30	56
	8	83	71	12½	30	56

Exterior: White jade or green porcelain. Interior: Rust resisting metal, white enamel. Hardware: Bronze, nickel plated. Insulation: Ottenheimer Bros. Inc. patented fibrocel construction. Two thicknesses plate glass. Case arranged with two compartments—storage and display. Sliding doors for display compartment. Hinged doors for service compartment. No compartment for compressor unit.

2930	7	70	14	8⅓	38¼	48⅛
	8	90	18	10½	38¼	48

Exterior: White or jade green porcelain monel metal trim. Dark green porcelain base board; Interior: Rust-resisting metal, white enamel. Hardware: Bronze nickel plated. Insulation: Ottenheimer Bros. Inc. patented fibrocel construction. Two thicknesses plate glass. Case arranged with upper and lower compartment for storage and display. Sliding door to display compartment. Hinged doors to storage compartment. No compartment for compressor unit.

2155	6	62	51	8⅓	40	52

Exterior: Jade green porcelain, monel metal trim. Dark green porcelain base board. Interior: Rust resisting metal, white enamel. Hardware: Bronze, nickel plated. Insulation: Oreole sub-zero sheet insulated construction wall. Four thicknesses plate glass. Case arranged upper and lower compartments for storage and display. Hinged doors to both compartments. No compartment for compressor unit.

C. L. Percival Co., West 11th and Des Moines Union Tracks, Des Moines, Iowa

(See advertisement on page 8 of yellow section)

105	1	26	24	5	34	54
208	6	40	39	8	34	52
210	6	50	45	10	34	52
212	7	60	51	12	34	52
308	4	24	15	8	34	52
310	4	30	19	10	34	52
312	4	36	23	12	34	52
408	6	53	30	8	34	52
410	6	67	38	10	34	52
412	7	80	46	12	34	52
710	6	64	37	10	34	52
712	6	77	45	12	34	52
714	8	80	53	14	34	52
810	6	63	36	10	35	54

Exterior: Finished in porcelain. Interior: Enamel on metal. Hardware: Nickel-plated. Insulation: Three to five inches of corkboard. No compartment for compressor unit.

Seeger Refrigerator Co., Wells and Arcade Streets St. Paul, Minn.

(See advertisement on page 11 of white section)

P-16	4	15.3	19.87	4	25⅜	65⅛
L-16	4	15.3	19.87	4	25⅛	65–1/16
P-32	6	31.62	41.4	5	29	70½
L-32	6	31.62	41.4	5	28⅞	70⅝
P-43	6	43.1	52.77	6¼	30⅜	73⅞
L-43	6	43.1	52.77	6¼	30¼	73¾
P-431	5	43.1	32.0	6¼	30⅜	73⅞
L-431	5	43.1	32.0	6¼	30⅛	73¾
P-49	6	48.9	60.25	7	30⅜	73⅞
L-49	6	48.9	60.25	7	30⅛	73¾
P-491	5	48.9	36.25	7	30⅜	73⅞
L-491	5	48.9	36.25	7	30¼	73¾
P-711	5	71.3	59.6	7	40⅜	73⅞
L-711	5	71.3	59.6	7	40⅛	73¾
P-21	2	19.4	23.4	2½	33	87⅜
L-21	2	19.4	23.4	2½	32¾	87¼
P-44	4	42.7	51.3	4¾	33	87⅜
L-44	4	42.7	51.3	4¾	32¾	87¼
P-441	3	42.7	29.5	4¾	33	87⅜
L-441	3	42.7	29.5	4¾	32¾	87¼
P-68	6	66.7	79.8	7	33	87⅜
L-68	6	66.7	79.8	7	32¾	87¼
P-681	5	66.7	57.6	7	33	87⅜
L-681	5	66.7	57.6	7	32¾	87¼
P-85	8	85.4	102.6	9¼	33	87⅜
L-85	8	85.4	102.6	9¼	33	87¼
P-20		20.59	29.82	4¼	33⅜	68⅛
P-30		29.7	40.3	4½	35⅜	81⅜
P-40		39.55	59.1	6¼	35⅜	68¼
P-50		50.0	79.0	6¼	35⅜	81⅜

Models prefixed "P" have porcelain exterior and interior, electric lights, adjustable shelves, chromium plated hardware, 3 inches insulation except doors have 4 inches on all overhead and shelf contained models.

Models prefixed "L" have lacquer exterior, except doors which are porcelain, galvanized steel interiors, chromium plated hardware, 3 inches insulation except doors have 4 inches in all overhead and self contained models.

Starr Co., Richmond, Indiana

(See advertisement on page 4 of white section)

SC	2	5		4¼	32¼	43⅞
RI	2	11¾		6	32¼	34⅞

Furniture steel over wood. Four and three-eights inches of insulation. Exterior: White lacquer on steel. Special colors on special orders. Interior: Heavy galvanized. No glass. Hardware: Chromium. Compartment for compressor unit.

ADVERTISEMENT

Water Coolers

The D. A. Ebinger Sanitary Mfg. Co. Columbus, Ohio

(See advertisement on page 22 of white section)

Model No.	Gals. Pr. Hr.	Width Inches	Depth Inches	Height Inches
C-300	6 to 10	19½	19½	32
C-330	17	38	25	35
C-331	17	38	25	48
C-341	42	45	27	33
C-342	85	84	25	33
C-351	42	45	27	62

Pressure type. Exterior: Sage green Krinlac.

C-510	3	23	16½	40
C-510-E	3	23	16½	40
C-511	3	23	16½	40
C-511-E	3	23	16½	40
C-513	6	28	20	41
C-514	10 to 17	34	20	41
C-515	10 to 17	34	20	41

Pressure type. Exterior: Green and white Krinlac.

C-521	10 to 17	38	20	54
C-522	10 to 17	38	20	54
C-523	6 to 10	34	22	54
C-526	10 to 17	39½	27	54
C-527	10 to 17	39½	27	54

Pressure type. Exterior: Sage green Krinlac. Types C-521, C-523 and C-526 have one bubbler. Others have two bubblers.

Frigidaire Corporation Dayton, Ohio

(See advertisement on page 13 of white section)

Model No.	Gals. Pr. Hr.	Width Inches	Depth Inches	Height Inches
P-150	15	35½	18½	38½
P-60	6	35½	18½	38½
P-45	4½	17	17	38
P-25	2½	17¾	17¾	44¾

Pressure type. Exterior: Lacquer. Bubbler, sanitary angle stream. Hardware: chromium plated. P-25 equipped with faucet.

SPC-25	2½	22⅝	19	48½
PC-25	2½	17¾	24½	44¾

Pressure type. Storage compartment. Exterior: Lacquer. Self-closing faucet. Hardware: chromium plated.

BC-25	2½	17¾	22¾	47½

Bottle type. Storage compartment. Exterior: Lacquer. Self-closing faucet. Hardware: chromium plated.

B-25	2½	17¾	22¾	47½

Pressure type. Exterior: Lacquer. Self-closing faucet. Hardware: chromium plated.

Water Cooling Tanks

Model No.	Gals. Per Hr.	Diameter Inches	Length Inches
T-200	20	15	31½
T-70	7	15	22¾
T-60	6	13½	19½
T-25	2½	8½	16¼

Pressure type. For multiplex installations. Exterior: Galvanized iron finished with aluminum paint.

General Electric Co., Hanna Bldg., Cleveland, Ohio

(See advertisement on page 3 of white section)

Model No.	Gals. Pr. Hr.	Width Inches	Depth Inches	Height Inches
DP-1	5	19	19	40¾

Pressure type. Exterior: Lacquer. Air-cooled condenser. Bubbler: Sanitary angle stream. 80° F. inlet cooled 30° F.

DP-3	12	20¾	20¾	41¼

Pressure type. Exterior: Bronze lacquer. Water-cooled condenser. Bubbler: Sanitary angle stream. 80° F. inlet cooled 30° F.

DB-1	2	18½	22¾	59½

Bottle type. Exterior: White or bronze lacquer. Depth measured over waste basin. Height includes bottle.

Kelvinator Corporation, 14250 Plymouth, Detroit, Mich.

(See advertisement on page 5 of white section)

BW10	3½	18	19½	47

Bottle type. All steel cabinet. Exterior: White lacquer, sage green crystal, or mahogany. Porcelain top. Height does not include bottle. Depth includes receptor.

BW20	3½	18	19½	47

Same general specifications as Model BW10. Includes, in addition, porcelain lined Armco iron bottle storage department. Door equipped with chromium plated hardware.

CW30	3½	18	19½	47
CW40	6	18	19½	47

Pressure type. All steel cabinet. Exterior: White lacquer, sage green crystal, or mahogany. Porcelain top. Depth includes receptor.

CW50	3½	18	19½	47
CW60	6	18	19½	47

Same general specifications as Models CW30 and CW40. Includes, in addition, porcelain lined Armco iron bottle storage compartment. Door equipped with chromium plated hardware.

CW70	3½	23	16½	39
CW72	6	23	16½	39

Pressure type. Copper-bearing furniture steel cabinet. Exterior: Sage green crystal (other colors on special order). Porcelain top. Angle-stream bubbler, non-squirting bubbler. Top, bottom and sides insulated with corkboard.

Liquid Cooler Corp., 6527 Russell St., Detroit, Mich.

(See advertisement on page 19 of white section)

220-I	20	34½	23	18
350-I	30	41	38	20

Self-contained industrial type. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.

ADVERTISEMENT

400-I	30	48½	17¼	15½
650-I	60	48½	17¼	15½
900-I	80	48½	17¼	15½

Dead end remote type. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.

900-CR	80	48½	17¼	15½
2000-CR	160	36	24	15¼

Cabinets for circulating systems. Exterior: Gray Krinlac. Receptors finished in porcelain. Insulation: Two inches of corkboard and Balsam Wool.

656-R	60	48¼	38	34
906-R	80	48¼	38	34

Self-contained restaurant type. Exterior: White Duco or porcelain. Insulation: Two inches of corkboard and Balsam Wool.

901-R	80	44½	17¾	24
902-R	80	44½	33¼	24
903-R	80	44¾	18	18
904-R	80	44¾	34	18
905-R	80	26	17¼	24

Remote installation restaurant type. Exterior: White Duco or porcelain. Insulation: Two inches of corkboard and Balsam Wool.

EL-30		18	18	42

Bottle type. Two inches of corkboard insulation. Exterior: Gray or olive green lacquer.

Universal Cooler Corp., 18th and Howard Sts., Detroit, Mich.

(See advertisement on page 20 of white section)

50-AJ		18	18	42

Pressure type. Two inches of corkboard insulation. Reserve of 4 gallons cooled water. Exterior: Gray porcelain top, gray lacquer sides.

Milk Coolers

Domestic Utilities, Garrison Blvd. and Western Md. R. R. Baltimore, Md.

(See advertisement on page 5, pink section)

Model No.	No. of Doors	Length Inches	Depth Inches	Height Inches
D-4	1	46″	44″	33″
L-4	1	73″	28″	33″
D-6	1	64″	44″	33″
D-8	2	82″	44″	33″
D-10	2	100″	44″	33″
D-12	2	118″	44″	33″

Boiler steel exterior. Copper steel lining. Inside protecting rack, heavy steel strips 3/16″ x 1½″ galvanized. Three inches of insulation sealed in.

General Electric Co., Hanna Bldg., Cleveland, Ohio

(See advertisement on page 3 of white section)

Model No.	No. of Doors	Length Inches	Depth Inches	Height Inches
MC	2	73½	35¾	56¾

Wood cabinet. Exterior: Battleship gray paint. Capacity: 40 gallons per 24 hours, cooled from 95° F. to below 50° F.

Haven Mfg. Co., 935 Clinton St., Milwaukee, Wis.

(See advertisement on page 28 of white section)

A line of insulated steel immersed type milk cooling tanks. Heavy galvanized sheet steel. Insulation: Three inches sheet cork. Sizes: 3, 4, 6, 8, 9, 12 cans, with or without surface cooler connections.

Universal Cooler Corp., 18th and Howard Sts., Detroit, Mich.

(See advertisement on page 20 of white section)

4	1	38¾	38¾	38¾
6	1	54¾	38¾	39¾
8	2	70¾	38¾	39¾
10	2	86¾	38¾	39¾
12	2	102¾	38¾	39¾

All steel. Exterior: Moss green enamel. Three and four inches corkboard insulation. Rack for cans.

Ice Cream Cabinets

General Electric Co., Hanna Bldg., Cleveland, Ohio

(See advertisement on page 3 of white section)

1C	4	80¾	20⅝	30½

Self-contained single row type. Exterior: Black lacquer on steel. Monel metal top. Capacity: Four five-gallon cans.

Kelvinator Corp., 14250 Plymouth, Detroit, Mich.

(See advertisement on page 5 of white section)

Model No.	No. of Holes	Length Inches	Depth Inches	Height Inches
11821	2	47½	20½	28¼
11822	3	58¾	20½	28¼
11823	4	47½	30¾	28¼

Portable type. Exterior: Sheet steel, rust proofed, finished in black enamel. Monel metal top. Three to three and one-half inches Celotex insulation.

11306	2	35¼	20¼	30
11307	3	46½	20¼	30
11308	4	58	20¼	30

Single row remote type. Exterior: Rust proof furniture steel panels, finished in black lacquer. Monel metal top. Two to four inches corkboard insulation.

11300	4	35¼	30	30
11301	6	46½	30	30
11302	8	58	30	30
11303	10	69¼	30	30
11304	12	80½	30	30
11310	4	57⅞	30	30

Double row remote type. Exterior: Rust proof furniture steel, finished in black lacquer. Monel metal top. Two to four inches corkboard insulation. Model 11310 equipped with compartment for bottled goods.

ADVERTISEMENT

Unit Specifications

(Concluded from page 26, column 5)

Belt. **Seal:** Trupar vacuum. **Motor:** Master. **Control:** Trupar pressure. **Cooling method:** Air. **Condenser:** Fin. **Refrigerant:** Sulphur dioxide.

Water-Cooled

Model	Motor	Capacity*
251	1/3 h. p.	250 lbs.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Trupar vacuum. **Motor:** Master. **Control:** Trupar pressure. **Cooling method:** Water. **Water valve:** Trupar pressure. **Condenser:** Fin. **Refrigerant:** Sulphur dioxide.

501	¾ h. p.	500 lbs.
502	1 h. p.	500 lbs.
1001	1 h. p.	1000 lbs.
1002	1½ h. p.	1000 lbs.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Trupar vacuum. **Motor:** Master. **Control:** Trupar pressure. **Cooling method:** Water. **Water valve:** American Radiator electric. **Condenser:** Fin. **Refrigerant:** Sulphur dioxide.

Low Side Chilling Unit Models

Model	Capacity	Freezing Trays	Ice Cubes
AA	6	2	56
A	8	3	84
B	10	3	72
C	15	4	96
D	25	4	96
E	5	2	56
F	7	3	84
G	9	4	112

System: Flooded. **Cooling method:** Direct. **Float valve:** Trupar low side.

Universal Cooler Corp., 18th and Howard Sts., Detroit, Mich.

(See advertisement on page 20, white section)

Domestic
High Side

Model	Motor	Capacity*
16-S	1/6 h. p.	50 lbs.

*Capacity rating based on 0 lbs. back pressure and 14 hours' running time.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Universal Cooler sylphon. **Motor:** General Electric capacitator. **Control:** Ranco & Penn temperature and pressure. **Cooling method:** Air. **Condenser:** Radiator. **Refrigerant:** Sulphur dioxide.

16	1/6 h. p.	50 lbs.
25	¼ h. p.	81 lbs.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Universal Cooler sylphon. **Motor:** Wagner (unless otherwise specified). **Control:** Ranco & Penn temperature and pressure. **Cooling method:** Air. **Condenser:** Radiator. **Refrigerant:** Methyl chloride.

25-S	¼ h. p.	81 lbs.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Universal Cooler sylphon. **Motor:** Wagner (unless otherwise specified). **Control:** Ranco & Penn temperature. **Cooling method:** Air. **Condenser:** Radiator. **Refrigerant:** Sulphur dioxide.

Low Side

Model	Capacity	Freezing Trays	Ice Cubes
AR2	7 cu. ft.	2	56
AR3	10 cu. ft.	3	84
05	5 cu. ft.	3	63
610	10 cu. ft.	3	63
1014	14 cu. ft.	5	105
1420	20 cu. ft.	6	126

System: Dry. **Cooling method:** Direct (AR2 and AR3); Indirect (05, 610, 1014 and 1420). **Expansion valve:** American Radiator bellows.

Commercial
High Side

Model	Motor	Capacity*
25-P	¼ h. p.	97 lbs.
33	1/3 h. p.	217 lbs.
33-P	1/3 h. p.	217 lbs.
50	½ h. p.	336 lbs.
75	¾ h. p.	420 lbs.
150	1½ h. p.	660 lbs.

*Capacity based on 16 lbs. back pressure, 14 hours' running time.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Universal Cooler sylphon (Cooke seal used on model 150). **Motor:** Wagner (unless otherwise specified). **Control:** Penn pressure (Penn temperature used on model 33-P). **Cooling method:** Air. **Condenser:** Radiator. **Refrigerant:** Methyl chloride.

50-W	½ h. p.	442 lbs.
75-W	¾ h. p.	490 lbs.
100-W	1 h. p.	700 lbs.
150-W	1½ h. p.	812 lbs.

Compressor: Reciprocating. **Drive:** Belt. **Seal:** Cooke sylphon (except on models 50-W and 75-W, which use Universal Cooler sylphon seals). **Motor:** Wagner. **Control:** Penn dual pressure. **Cooling method:** Water. **Water valve:** Penn pressure. **Condenser:** Radiator. **Refrigerant:** Methyl chloride.

Low Side

Larkin low side equipment used for commercial installations.

Westinghouse Electric Mfg. Co., Mansfield, Ohio

(See advertisement on page 15, white section)

High Side

SD-12	1/8 h. p.	
SD-16	1/6 h. p.	

Compressor: Reciprocating. **Drive:** Direct. **Seal:** Westinghouse hermetic. **Control:** Westinghouse temperature pressure. **Cooling method:** Air. (Forced draft on model SD-16). **Condenser:** Fin coil radiator. **Refrigerant:** Sulphur dioxide.

Low Side

Model	Capacity	Freezing Trays	Ice Cubes
SD-12	5.8, 7.8	4	72
SD-16	10, 13, 17	8	144

System: Dry. **Cooling method:** Indirect. **Expansion valve:** Westinghouse bellows.

In Two Parts—Part 1

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

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TWO DOLLARS PER YEAR

EXECUTIVE STAFF OF MAJESTIC CO. GETS NEW BLOOD

Grigsby Takes Full Control; Collamore, Weiland Join; Grunow, Young Out

Chicago, Ill.—Fundamental changes in Grigsby-Grunow Company's internal organization were made public last week, along with the announcement that Majestic House Utilities Corp. plans to start production on February 1 of a four cubic foot domestic refrigerator to retail at $156.50, f.o.b. Chicago. Production on the other two models has ceased temporarily.

B. J. Grigsby, chairman of the board and co-founder of the organization with W. C. Grunow ten years ago, has assumed active management as president of both companies. He will retain his position as chairman of the board of both corporations.

Mr. Grunow, formerly president of both organizations, and Herbert E. Young, formerly in charge of Majestic refrigerator sales, are no longer connected with either firm.

Vernon W. Collamore, who was general sales manager of Atwater Kent for seven years before coming to Grigsby-Grunow, is now in complete charge of both radio and refrigerator sales, and directly responsible to Mr. Grigsby. Albert C. Weiland, formerly of the RCA-Victor Company at Camden, N. J., is the new production manager.

D. M. Compton is to be executive vice-president and treasurer of both companies, and responsible to Mr. Grigsby in all matters of policy, sales, and finance.

Starting last Monday, the Grigsby-Grunow factory commenced daily production of 2,000 radio sets, all superheterodynes, and ranging in price from $69.50 complete to $197.50 complete for the combination phonograph and radio set.

A letter to Majestic radio dealers last week from Mr. Grigsby, assured them that there were few sets on the market as unsold stock, and concluded with the following:

"Grigsby-Grunow is in sound financial position, there are many bright spots in the picture we believe for the year 1931, and regardless of any rumors you may hear, may we assure you emphatically that the company is, as formerly, determined and able to maintain fully its position in the radio business."

NEW MODELS INTRODUCED AT WAYNE CONVENTION

Fort Wayne, Ind.—More than 150 dealers, distributors and salesmen from Wisconsin, Illinois, Indiana, Ohio and Kentucky were on hand to participate in the annual sales convention of the Wayne Electric Refrigerator and Oil Burner Co., here January 26-27, at which new models in the 1931 Wayne refrigeration and oil burner lines were introduced.

The first day of the convention was devoted entirely to refrigeration. The opening session got under way with an address of welcome by G. A. Berghoff, president of the company. Six models, which make up the new refrigeration line, with retail prices from $165 and up, were introduced to the delegates.

In the afternoon, the Wayne selling plan and factory co-operation were the two subjects which took the major portion of the program.

A. W. Clark, vice president and director of sales, who was in charge of the convention, also presided at the banquet on Monday evening. Addresses were

(Concluded on Page 4, Column 2)

DEMAND FOR REFRIGERATION HIGH, SURVEY SHOWS

Chicago, Ill.—Demand for electric refrigeration in 1931 should be good, according to *Time* magazine, which recently circulated a questionnaire among its readers, asking them what they planned to buy in 1931. Results of the survey were published in an advertisement in the January 16 *Chicago Tribune*.

Of the 30,000 subscribers who answered the questionnaire, 4.2% planned to buy new homes, 24.5% home decorations, 30% radios, 32.5% automobiles, and 56.7% electric refrigerators.

Takes Reins

B. J. Grigsby

GEORGIA TAX RULING HITS REFRIGERATION

Atlanta, Ga.—Electrical refrigerators come under the classification of "domestic ice machines" in the general tax act of the State of Georgia, according to a ruling made by the Supreme Court.

The court denied an injunction against collection of the tax sought by Hoffman and Crowell, Inc., local dealers, who had contended that electric refrigerators are designed primarily for the purpose of refrigeration, and that the making of small cubes of ice was incidental. The court ruled that they were ice machines "whether designed for the manufacture of ice or merely for cooling an insulated cabinet."

The ruling subjects every dealer in electric refrigerators in the state to the payment of the ice machine tax.

Georgia dealers and distributors of electric refrigerators have expressed strong dissatisfaction with the decision and are preparing to make further legal investigation.

WESTINGHOUSE ANNOUNCES NEW LOW PRICED JOB

Apartment House Refrigerator In Production, To Sell For $180 f. o. b.

Mansfield, Ohio — Entrance of the Westinghouse Electric & Mfg. Co. into the low-price refrigerator field is heralded by the announcement of an apartment house type model which will sell for $180, f.o b. Mansfield, Ohio.

Production of the new unit has already started in the new refrigeration plant of the company at its works in East Springfield, Mass.

This new refrigerator, known as model WL-45, will be announced to the public in a double page spread advertisement in the *Saturday Evening Post* of February 7.

The net cubical content of the interior is 4.25 cubic feet. A total of five and one-fourth pounds of ice can be frozen at one time. The cabinet is but 56 inches high, with the standard legs. This height may be reduced by the substitution of shorter legs or a steel subbase, which are furnished as optional equipment. The cabinet is 24 inches wide.

It can be built in with kitchen cabinets through the use of a special ventilation flue furnished by the company. Each cabinet is furnished with a spacer in back so that it cannot be pushed close enough to the wall to block the air circulation.

All of the features of the earlier Westinghouse models are to be found in the WL-45, including a hermetically sealed compressor unit, fan-cooled condenser, Spencer thermostat, temperature selector, one-piece porcelain lining and flat shelf ribs. The cabinet is finished in white lacquer, and the hardware is chrome-plated.

There are now six different size models in the Westinghouse line, including the new apartment house model with 4.25 cu. ft. capacity, and the 5½, 7½, 10, 13 and 17 cu. ft. capacity models.

(Concluded on Page 4, Column 1)

Honored

Louis Ruthenburg

COPELAND CHANGES SALES ORGANIZATION

Mt. Clemens, Mich.—W. D. McElhinny, vice-president in charge of sales of Copeland Products, Inc., announces some important changes in the Copeland sales organization for 1931. The country has been divided into two regions, the Western division, to be under the supervision of Ralph W. Jones, and the Eastern division, under Frank T. Williams. These men will have the general direction of the field operations and will have assistants as follows:

In the Western division, O. G. Tinkey, with headquarters in Seattle, will handle the Pacific Northwest and California, Utah and Colorado. J. Harrison, with headquarters in Oklahoma City, will handle Nebraska, Kansas, Arkansas, western Tennessee and western Kentucky. J. F. Wood, with headquarters in Dallas, will handle Texas, Louisiana and Mississippi. C. J. Camp, with headquarters in Detroit, will handle Minne-

(Concluded on Page 4, Column 1)

L. RUTHENBURG IS ELECTED 1931 NEMA CHAIRMAN

Copeland President to Lead Refrigeration Group; Succeeds Quinn

New York City—Louis Ruthenburg, president and general manager of Copeland Sales Co. was elected chairman of the Refrigeration Division of the National Electrical Manufacturers Association at a meeting held at the Association headquarters January 22. He succeeded T. K. Quinn.

An important action taken at the meeting was the approval of forms and method for collecting quarterly production statistics.

The following committees were authorized and the appointment of personnel taken under advisement: Advisory Committee, Committee on Codes and Ordinances, Committee on Commercial Practice and Technical Committee.

The Refrigeration Division is co-operating with the American Standards Association in promoting the Standard Refrigeration Code recently adopted. Copy for the code booklets has been approved and is now in the hands of the printer. The booklets will be ready for distribution in about two weeks.

The following men attended the meeting: T. K. Quinn and A. R. Stevenson, representing General Electric Co.; E. G. Biechler and Harry Williams, representing Frigidaire Corp.; George Mason, representing Kelvinator Corp.; Colonel Frank E. Smith and E. T. Williams, representing Servel Inc.; Carl Taylor, representing Westinghouse Electric and Mfg. Co.; G. M. Johnston, representing Universal Cooler Corp., and Louis Ruthenburg, representing Copeland Sales Co.

DELCO APPLIANCE CORP. ABSORBS OIL BURNER CO.

Rochester, N. Y.—The purchase by the General Motors Corp. of all the capital stock of the Rickard Engineering Corp., Brooklyn, N. Y., marks the entrance of General Motors into a new field, that of oil burners.

Announcement has also been made that the North East Appliance Corp. of this city, a manufacturer of automotive electrical equipment has been consolidated with the Delco-Light Company, a General Motors subsidiary, under the name of the Delco Appliance Corp. with headquarters here.

All of the manufacturing and sales operations of the Rickard organization have been moved to the plant of the Delco Appliance Corp. which will continue the manufacture and sale of this product.

E. A. Halbleib, formerly president and general manager of the North East Appliance Corp. will act as president of the new Delco Appliance Corp. E. G. Beichler, formerly president of the Delco-Light Company, will devote all his time to the presidency of Frigidaire Corporation, another General Motors subsidiary.

The Rickard oil burner, which has been on the market for the past four years, has been re-designed slightly to facilitate large quantity production. The machine will be essentially the same, all of the vital parts having been retained. It will be marketed under the trade name of "Delco Heat."

S. D. Rickard, president of the Rickard Engineering Corporation, will be connected with the Delco Appliance Corporation as a consultant on oil burner problems.

It is understood that the manufacturers of the Delco burner will not attempt national distribution, but will concentrate their merchandising efforts in areas around Rochester for the present, until they have perfected their merchandising plans.

SERVEL COMMERCIAL MEN TO MEET IN EVANSVILLE

Evansville, Ind.—Divisional sales managers and commercial representatives of Servel, Inc., will meet here February 2, 3, and 4 to lay plans for the 1931 campaign.

Commercial sales will receive additional emphasis this year in the Servel organization, according to Paul Jones, advertising and sales promotion manager.

ANNOUNCEMENT

WITH this issue George F. Taubeneck becomes editor of ELECTRIC REFRIGERATION NEWS, succeeding William Jabine.

Mr. Taubeneck's observations of the industry in action and his impressions of various cities have been appearing regularly under his name in the "Expansion Valve" and "Off Duty" columns. But these collections of interesting word-pictures have represented only a small part of his contribution to the editorial pages.

More laborious have been the preparation of the directories, specifications and other data on various classes of equipment in the "Buyer's Guide" which Mr. Taubeneck has edited since the start of the pink section.

Readers who followed the "Battle of the Code" in Chicago during the summer and fall of 1929 will recall the complete and unbiased accounts of that many-sided struggle. That outstanding job of reporting was done almost entirely by Mr. Taubeneck.

The new editor thinks in terms of *news*, and subscribers may look forward to an ever-increasing volume of industry news written in a stimulating as well as informative style. It is characteristic of Mr. Taubeneck as a reporter that he not only finds out *what* happened but seems to have an amazing degree of luck in being there *when* it happens.

A NEW MEMBER of the editorial staff is John T. Schaefer of Chicago, whose name appeared in the mast-head of the preceding issue. Mr. Schaefer is a graduate of the University of Illinois in both industrial engineering and commerce, a combination which required a five-year course. Part of his journalistic training was gained with the McGraw-Hill Publishing Co. He will be Engineering Editor and will devote his attention to building up the volume of news matter relating to technical developments in the industry. In this connection plans will be announced soon for an entirely new feature of the NEWS which will be of special interest to engineers, production executives, installation and service men.

During the past month the offices of the NEWS have again been expanded and completely rearranged. Additional personnel, larger quarters and new equipment are being provided for editorial, advertising, subscription and accounting departments, also the composing and mailing rooms. Offices in New York and Chicago have been discontinued and all field activities will work out of Detroit, the geographical center of the industry.

THE curves and figures showing the growth of electric refrigeration which appeared in the January 14 issue reveal a young and robust industry moving forward confidently and at a rapid pace. The NEWS has developed its service concurrently and will continue to do so. During 1930 the NEWS introduced two surprise packages in yellow and pink wrappings. The pink section culminated in the Annual Directory Number and will not appear again until later in the year. Another surprise package (you're right—another color) will appear in February.

ELECTRIC REFRIGERATION NEWS is designed to be read when it arrives—convenience in filing is a secondary consideration. Binders are provided for those who want them—bigger binders will be made in the future. But the aim of the editors will be to make the paper readable and worth reading—a service to the industry comparable to that which the industry is rendering to the public.

F. M. COCKRELL, Publisher.

GOODWIN REJOINS SEEGER AS COMMERCIAL MANAGER

New York, N. Y.—H. A. Goodwin, formerly associated with the Seeger Refrigerator Company, but more recently with the McCray Refrigerator Company, has

H. A. Goodwin

rejoined the Seeger Company's New York organization. Mr. Goodwin will take charge of sales in the commercial division and will assist in introducing the new grocer and butcher line of refrigerators for 1931.

G. E. USING TALKIES TO PUT OVER SALES PROMOTION

Cleveland, Ohio—General Electric is using the talking motion picture effectively in sales promotion. In a film just released by the refrigeration department of that company, the story is told of how the Associated Gas and Electric System sold 13,741 gas and electric refrigerators in six weeks. The sound feature adds much to the effectiveness of the film.

The film is noteworthy not only because it is a novel medium of sales promotion, but because it describes the first refrigeration campaign ever conducted by a utility system operating over a wide territory.

GAS REFRIGERATOR SALES IN NEW YORK GAIN 60%

New York, N. Y.—A sixty per cent increase in sales of automatic gas refrigerators was accomplished during 1930 by the Consolidated Gas Company of New York and affiliated gas companies, according to a statement issued recently.

Orders for 32,423 gas refrigerators, or the equivalent of 540 carloads, were received by the company, as compared with orders for 20,273 refrigerators in 1929, and 5,345 in 1928. September, 1930, was a record month for refrigerator sales in the company's history, when orders for 4,601 refrigerators were received.

It is estimated that the refrigerators sold during 1930 will use more than one-half billion cubic feet of gas annually, according to O. H. Fogg, vice-president in charge of commercial relations.

"The large increase in gas refrigerator sales, achieved in the face of general depression and lessened building activity, indicates the extent of public demand for automatic refrigeration, which has been accepted as a necessity by the landlord as well as the tenant," Mr. Fogg said.

"The sale of gas refrigerators was in many cases accompanied by the sale of modern gas ranges, indicating a trend to complete modernization of the kitchen with automatic appliances."

NEW SALES UNIT SET UP BY FRIGIDAIRE IN BOSTON

Boston, Mass.—H. W. Newell, who has been general manager of the Frigidaire distributorship in Boston for the past six years, will manage a new General Motors distributing unit known as the Frigidaire Sales Corporation of New England.

The distribution of Frigidaire throughout the entire New England States will be handled by this organization, with headquarters in Boston. Previous to January 1, this territory was covered by three different organizations, the distributorship in Boston and factory branches

H. W. Newell

in Springfield and New Haven. This new company will be the second largest Frigidaire sales outlet in the country, New York being the largest.

The identical executive personnel which has been associated with the Boston distributorship will direct the activities of the larger organization, according to Mr. Newell. Other officials are: J. S. Pfeil, assistant manager; F. F. Doten, assistant to H. W. Newell; H. A. Valencourt, district sales manager; T. A. Farrell, district sales manager; E. H. Richardson, Boston retail manager; L. S. Kimball, public utilities manager; C. R. Brett, distribution manager; L. W. Retzel, comptroller and F. M. Long, service manager.

Headquarters of the Frigidaire Sales Corporation of New England will be continued at 743 Boylston Street, Boston, for a while, but it is planned that the organization will move to new and larger quarters within the next few months. This will be necessary, according to Mr. Newell, because of the larger and expanded organization and the new activities, that have been headed up here in Boston.

From an organization of less than 100 employes about six years ago, the staff has expanded rapidly so that it now numbers between 1,200 and 1,400 men and women. The majority of these are Frigidaire dealers and salesmen; the balance the clerical, installation and service personnel.

HIGH TARIFF IS PROBLEM TO AUSTRALIAN DEALERS

Melbourne, Australia — "Refrigerator dealers of Australia should try to get together instead of cutting each other's throats," says J. E. Burgess, Sales Manager of Warburton Franki Ltd, Frigidaire distributors, Melbourne, Victoria. Never was there a time in the history of refrigeration for the immediate need of co-operation in the business than at the present! Never before have we had such an up hill fight against overwhelming odds.

"Exhorbitant tariff duties have created a wall between us manufacturers. Refrigeration units of overseas manufacture are taxed to the utmost, about 220%, and it means that after our present stocks are exhausted we will have a problem to face, with the refrigeration industry in the balance.

"It is rumored," said Mr. Burgess, that portion of this tax is only of temporary nature, so we live in hopes that t will soon be lifted in order that we might sell a perfect imported system at a reasonable price.

"Still, with depression in our midst we are optimistic and still believe in the future of the business. The field of refrigeration in Victoria is extensive and the local manufacture of complete units is nothing to speak of."

BRIGHAM SUCCEEDS LINES IN NEW HAVEN

New Haven, Conn.—New Haven Electric Company, 131 St. John Street, Copeland refrigeration distributor for several counties in Connecticut, has been reorganized, with David Brigham as president and treasurer. H. A. Lines, president for many years, was forced to retire because of ill health. He is spending the winter in the south. Mr. Brigham was formerly treasurer of the company, and continues in that capacity as well as the presidency. E. S. Belcher was named vice-president. T. G. Tynan is general sales manager, C. F. Ganter, refrigeration manager, and F. M. Dinan, advertising manager.

TOP TOPPER CUTS LOOSE AFTER SLUMP

Philadelphia, Pa.—For six days Bert Matsinger, top topper of the General Electric organization, had gone hitless in every attempt to knock out an order, and to the salesman who led the G. E. pack last year the prospects were not any too bright, when suddenly his luck changed.

To start off the seventh day he collected a homer in the form of an order at 8:15 in the morning, and between that hour and 10:45 in the evening he garnered eight more orders, making a total of nine for the day.

PIANOS, RADIOS AND REFRIGERATORS

Baltimore, Md.—The National Piano Company, 322 North Howard Street, Baltimore, Md., radio and piano retailers, is now selling the Wayne electric refrigerator.

WILSON GETS PLACE ON FEDDERS DIRECTORATE

Buffalo, N. Y.—R. D. Wilson, president of the Wilson Foundry and Machine Company, of Pontiac, Mich., was elected a director of the Fedders Manu-

R. D. Wilson

facturing Company, Inc., at the regular monthly meeting of the directors.

Mr. Wilson is well known in the automotive field, his company being the manufacturer of the Willys and the Willys-Knight motors.

At the meeting new products which will be introduced to the trade during 1931 were shown.

DAYTON COMPANY PUSHING LOW PRICED MACHINE

Dayton, Ohio.—Dayton Refrigeration Company has opened a Dayton sales office and display room at 415 South Main Street. A complete line of Dayton electric refrigerators will be maintained in the new quarters, including models in a variety of colors, it has been announced by Sidney L. Brown, president of the company.

Distributorships are being organized throughout the country, and the company's plant at Miami Chapel Road is filling orders as they are received.

The company is conducting an intensive campaign on its model 5-A, especially designed for the average family and priced at $137.50. This model has a lacquer exterior and a porcelain interior, two ice cube trays with a capacity of 56 cubes, and a defrosting tray. Walls have insulation three inches thick, and there is eight square feet of shelf area and five cubic feet of food space.

COPELAND APPOINTS NEW ARGENTINE DISTRIBUTOR

Mt. Clemens, Mich.—Resta Hermanos, S. A., of Buenos Aires, one of the best known automobile distributors in South America, has just been appointed distributors of Copeland electric refrigerators in the Argentine, according to an announcement issued by Copeland officials here. The Hermanos Bldg. in Buenos Aires, just finished recently, is of the most modern construction. It is in itself a complete establishment, with a test track on the roof, a body building plant, paint shop, electrical and service departments. There is an entire block of beautiful show rooms.

These facilities will be devoted by Messrs. Resta Hermanos to the sale and servicing of Copeland refrigerators, in addition to their motor car activities. Messrs. Resta Hermanos are now organizing to distribute Copeland refrigerators throughout the whole Argentine Republic.

DETROIT CONCERN REPORTS INCREASED ACTIVITY

Detroit, Mich.—Large orders from electric refrigerator manufacturers have resulted in increased activity at the Detroit Forging Company according to E. R. Wegener, president and general manager.

Both in the variety of parts being forged and in total tonnage the Defco volume in the refrigerator field is more than 50% ahead of this period in 1930.

ANACONDA COPPER and COPPER ALLOYS in commercial shapes for all manufacturing requirements

ANACONDA Products comprise copper and copper alloyed with zinc, tin, nickel, lead, silicon and manganese in all combinations that can be wrought into commercial shapes. Products for the electric refrigeration industry include:

EVERDUR METAL (EVERDUR) (Trade-mark Reg. U. S. Pat. Off.) — An exclusive Anaconda Alloy of copper (96%), silicon and manganese, combining the strength of steel with unusual corrosion-resistance and ready weldability by ordinary methods. Used extensively for screws, bolts, etc., and for valves and fittings in contact with acids or refrigerants.

DIE-PRESSED PARTS — More uniform in shape and truer to size than sand castings, requiring little or no machining. Freedom from spills and blow-holes found in castings reduces rejections.

FREE-TURNING BRASS RODS — For screw machine products; scientifically alloyed for high-speed production.

MOULDINGS — Nickel-Silver and Brass for cabinet trim.

AMBRAC METAL (Trade-mark Reg. U. S. Pat. Off.) — A non-corrosive white metal, composed principally of copper and nickel, for screws, bolts, racks and metal trim. Exclusively an Anaconda Alloy.

TINNED COPPER — For ice-trays, grids, containers, linings for compartments of large commercial units and cans for storing ice cream.

ANACONDA from mine to consumer

The American Brass Company embodies in Anaconda Copper and Copper Alloy Products the highest technical skill in manufacture with the accumulated knowledge and experience of more than a century.

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
Offices and Agencies in Principal Cities

A clear view easy reading thermometer—designed to give the utmost in instrument accuracy and dependability.

Easily interchangeable refill. Nickel plated brass case, not affected by brine.

MANUFACTURED AND GUARANTEED BY
Carroll Glass Instrument Co.
PHILADELPHIA, PA.

TESTING LABORATORY

A Laboratory Test often brings out many interesting comparisons.

Our Laboratory is thoroughly equipped for tests on refrigerators and refrigerating equipment.

Our service will assist you in your problems.

George B. Bright Co.
Refrigerating Engineers & Architects
2615—12th ST., DETROIT, MICH.

Make sure of this year's PROFITS

YOU and your men and your store and your methods—though they are all of the best—can go just so far to make 1931 a good year. After that it's up to the product. And the surest thing in electric refrigeration is that General Electric Refrigerators always do their big part.

It's inherent in the General Electric Monitor Top to produce sales *and to make the profits stick.* That's because extreme economy, and freedom from attention are inherent in the Monitor Top—hermetically sealed-in-steel—dirt-proofed—moisture-proofed, tinker-proofed—self-oiled—lastingly quiet—and a source of pride in the home, for the distinctive modern style that says "General Electric".

The performance record made possible by the Monitor Top is on the tongues of America. Talk Monitor Top to domestic and commercial prospects for a 1931 sales record, *and for profit that you keep.*

Electric Refrigeration Department, Section DF 2, General Electric Company, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio.

Bigger—stronger—still more impressive—the 1931 General Electric Refrigerator advertising campaign joins the chorus of owner approval that "sends them in" to be sold.

THE SATURDAY EVENING POST
AS CLEAN AS ELECTRIC LIGHT
15¢ 2 for 25¢
Make sure of this year's SAVINGS
—General Electric's carefree refrigerating unit glides quietly in a perpetual supply of oil. Aided by natural laws its smaller motor consumes less current. The General Electric Refrigerator is modern—beautiful—ageless in design. Cabinets are all-steel, porcelain-lined—durable and easy to clean. Let its amazing service record in your neighbors' homes guide you. Prices are reasonable—down payment modest and terms liberal. It takes a big income to afford the waste of inadequate refrigeration. Don't go through another year without the proved convenience and economy of a General Electric.
START this year gloriously—and economically! Put new pride in your kitchen and more dollars in the bank. Stop waste of food, time and effort. Cut living costs and guard family health—with a thrifty all-steel General Electric Refrigerator.
Nearly a million owners know this modern necessity actually saves more than it costs—returns substantial dollar and cents dividends plus lifetime convenience and satisfaction—diminishes the difference between January resolves and December realities.
The General Electric Refrigerator—born of 15 years' tireless research—offers every advantage of electrical refrigeration. Food is kept safe and appetizing in crisp, dry cold constantly below 50°. A host of tasty low-cost dishes crowd your menus. Food spoilage is reduced to a minimum—household duties lightened. You can enjoy the advantages of quantity purchasing—save many tiring trips to market and have a well-stocked larder all the time.
Barricaded behind sturdy walls of steel—hermetically sealed in the distinctive Monitor Top
GENERAL ELECTRIC
ALL-STEEL REFRIGERATOR
General Electric Co., Electric Refrigeration Department, Hanna Bldg., 1400 Euclid Ave., Cleveland, Ohio.

GENERAL ELECTRIC
REFRIGERATORS

COPELAND CHANGES SALES ORGANIZATION

(Concluded from Page 1, Column 4)

sota, the Dakotas, Iowa, Missouri, southern Illinois and Indiana. M. W. Rudd will act as special representative on commercial throughout the entire Michigan region.

In the Eastern division, W. H. Lyon, with headquarters in Boston, will handle Vermont, eastern Massachusetts, New Hampshire, Maine and Rhode Island. W. J. Miller, with headquarters in Syracuse, will supervise the activities in western Massachusetts, eastern New York, Connecticut and northern Pennsylvania. F. C. Obert, with headquarters in Philadelphia, will handle eastern Pennsylvania, New Jersey and Maryland. R. H. Cone, with headquarters in Atlanta, will handle the southeastern portion of the United States, including the states of Florida, Georgia, Alabama, eastern Tennessee, the Carolinas, Virginia and District of Columbia. R. P. Scott, with headquarters in Columbus, will handle western New York, western Pennsylvania, West Virginia, Ohio and eastern Kentucky. Marion Moore will be attached to the Eastern division in the capacity of special representative on commercial.

SALES CONTEST WINNERS NAMED AT CONVENTION

Detroit, Mich.—Winners in the Copeland 1930 National Sales Contest were announced at the banquet held on January 13 in connection with the Copeland Convention.

For this contest the United States was divided into eight groups. Awards were made on the basis of the largest volume of business in dollars and cents during the year. Both distributors and dealers were eligible to compete.

The following companies carried away the honors within their respective groups: No. 1—Copeland Refrigeration Co., New York City; No. 2—Refrigerator Sales & Appliance Corp., Boston; No. 3—Harper-Meggee, Inc., Seattle, Wash.; No. 4—Binder Electric Supply Co., Trenton, N. J.; No. 5—Radio Electric Store, Springfield, Ohio; No. 6—Copeland Electric Refrigeration Co., Newport News, Va.; No. 7—Walter Connally & Co., Tyler, Tex.; No. 8—Robert W. Plyer, Inc., Hempstead, N. Y.

A handsome silver loving cup was given to each of the winners to keep in his possession during 1931. The cups are competed for annually.

KELVINATOR EXECUTIVE STAFF REMAINS INTACT

Detroit, Mich.—The stockholders of the Kelvinator Corporation held their annual meeting at the factory, Monday morning, January 19th. There was also held a quarterly directors' meeting. The members of the Board of Directors were all re-elected. All elective officers and appointive officers were confirmed.

Portuguese President Attends Kelvinator Banquet

Lisbon, Portugal. — Rubbing elbows with the President and Prime Minister of Portugal is the latest achievement of the Kelvinator staff here. At a banquet for the Kelvinator organization, several high officials were on hand to participate in the affair. News of the break of electric refrigeration into high governmental circles was reported by Baron Luigi Parrilli, Paris, European manager for Kelvinator.

The photo of the banqueteers shows: 1. General Carmona, president of Portugal; 2. General Oliveira, prime minister; 3. Representative of the Marine Ministry; 4. American Consul in Lisbon; 5. Engineer A. Burguete, Kelvinator; 6. M. R. Goncalves, chief accountant of the Kelvinator office; 7. M. A. Mayer, chief salesman of Kelvinator, Portugal; 8. M. M. Pinto, first salesman of Kelvinator; 9. M. O. Oscar, chief carpenter in the service dept.; 10. M. R. Fiorelli, engineer for Kelvinator; 11. M. A. Campos, service man.

NEW MODELS INTRODUCED AT WAYNE CONVENTION

(Concluded from Page 1, Column 1)

made by John A. Berghoff, general manager, and E. J. Gollmeyer, general sales manager of the Wayne Co., Fort Wayne.

Rounding out the evening's entertainment was a two-act play put on by the Chicago Wayne branch in which the good and bad dealer were characterized, much to the amusement of the visitors and their wives, who laughed long and heartily at the caricatures presented on the stage.

Wayne's oil burner program was taken up at the Tuesday meeting. The convention was concluded with a second banquet on Tuesday evening.

G. E. REPORTS TOTAL ORDERS FOR 1930

Schenectady, N. Y.—Orders received by the General Electric Company for all classes of electrical merchandise during the year 1930 amounted to $341,820,312, compared with $445,802,519 for 1929, a decrease of 23 per cent, President Gerard Swope has announced.

As a result of the transfer of radio set and tube business, outlined in the company's 1929 annual report, orders received in 1930 do not include radio sets and tubes, except orders received for the new General Electric radios introduced in the latter part of the year.

Racketeer

From Philadelphia, Pa., comes the information that a man posing as a correspondent of ELECTRIC REFRIGERATION NEWS has been interviewing dealers to get stories for the NEWS, and then billing them in advance for the "publicity."

The NEWS wishes it to be known that space in the editorial columns is not sold, nor is any correspondent ever authorized to accept payment from anyone, save this publication, for the materinl published in this paper.

Should any racketeer of the type discovered in the Quaker City appear, the NEWS will consider it a favor if the name address, and a description of the solicitor are secured and reported.

NEW COAST DISTRIBUTOR GETS GOOD START

San Francisco, Calif.—Trupar distribution for the entire state of California has been taken over by Kierulff & Ravenscroft, Inc., 121 9th Street, here. In a short time the new distributor disposed of its first carload shipment of Mayflower refrigeration equipment.

Appointment of this company was made by William J. Seroy, who recently joined the Trupar organization as Pacific Coast sales manager. Mr. Seroy is also president of Zorite Products Corp., but is devoting his entire time to the Trupar Mayflower line.

WESTINGHOUSE STARTED IN NEW YORK FIELD

New York, N. Y.—With Mr. Televox, the mechanical man, playing the role of chief introducer, Westinghouse electric refrigerators made their debut in metropolitan New York, Jan. 21-23. Allen-Ingraham, Inc., distributors for this territory, put on the demonstration at its headquarters at 254 Fourth Avenue.

TO REPRESENT JEWETT IN NEW ENGLAND

Boston, Mass.—L. E. Klotz Co., Inc., 79 Milk Street, has been appointed New England distributor for the Jewett refrigerator.

PITTSBURGH MUSIC DEALER ADDS REFRIGERATION LINE

Pittsburgh, Pa.—Distribution of Kelvinator products in this territory has been taken over by the Standard Talking Machine Co., 305 Penn Ave., succeeding the Kelvinator-Leonard Corporation, which held the franchise for a number of years. Refrigeration will have two musical companions, talking machines and radios, both Victor products which are merchandised by the distributor. The new Kelvinator representatives are pioneers in the field of music, having entered it about twenty-five years ago.

Joseph C. Roush is president of the company and Wallace Russell is secretary. Both retail and wholesale Kelvinator operations will be conducted from the headquarters on Penn Ave. Practically the entire personnel of the Kelvinator-Leonard Corporation has been taken over by the new distributor.

FLINTLOCK TO ELECT NEW PRESIDENT

Detroit, Mich.—Election of a new president of the Flintlock Corp. to fill the vacancy occasioned by the death of Carl H. L. Flintermann, is expected to take place this week.

Mr Flintermann took his own life Sunday, January 18, in Jackson, Mich.

OIL BURNER INDUSTRY PREPARES FOR SHOW

New York, N. Y.—Final plans for the eighth annual convention and show of the oil burner industry to be held April 13-18, in Philadelphia, were completed at a meeting of the directors of the American Oil Burner Association, January 14, in Philadelphia.

Convention meetings, it was announced, will be held in the Benjamin Franklin Hotel, while the exposition will be staged on the exhibit floor of the Gimbel Building across the street.

Harry F. Tapp, executive secretary of the Association, disclosed that 115 out of a total of 125 booths had already been reserved by members and it was anticipated that the remaining ten booths would be gone within a short time. The sale of space, Mr. Tapp said, indicates a greater interest in the show this year than ever before.

Many of the manufacturers of burners and accessory equipment have stated their intention of introducing their latest models and improvements at this time and the show is expected to draw a large attendance from among heating contractors, engineers, builders and members of the oil heating industry.

In addition the show will be opened for the second consecutive year to the general public, and many of the exhibits will be designed to interest the home owner and prospective purchaser of oil heating equipment. The success of this plan at the last convention, when many sales were made directly from the floor, induced the directors to open all future shows to the public.

One result of this move is believed to be seen in the fact that the larger oil companies, attracted by the opportunity to reach the public as well as the oil burner industry, are entering the show this year. Standard Oil of New York and Sinclair were the first of the oil companies to reserve space.

The list of exhibitors who already have bought space includes most of those who participated last year as well as several new firms.

SILENT AUTOMATIC HOST AT DETROIT CONVENTION

Detroit, Mich.—More than 500 representatives of the Silent Automatic Corporation's eighty factory branches and 300 dealers closed a three-day sales convention at the Statler Hotel here, January 21. Most of the 500 registrants were from out of town.

The program included inspection of the new Detroit factory at 12001 East Jefferson Avenue, and organized discussions of sales problems, manufacturing methods, and prospects for the ensuing year.

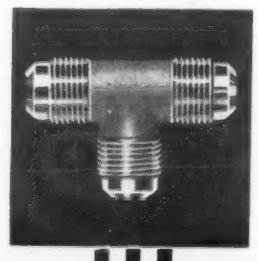
The delegates were welcomed by W. F. Tant, president, on the first day of the meetings, which ended with a dinner and cabaret party. Tuesday, the delegates went by special buses to the Players' Club, where J. L. O'Brien presided at a retail sales forum. Charles Schermerhorn addressed the banquet that night in the hotel.

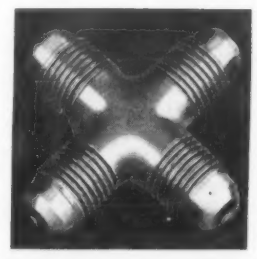
FORGED BRASS FITTINGS

BUILT RIGHT TO STAY TIGHT

Tube seats are uniform and protected in shipping, reaching the job in A-1 condition.

Seepage proof, providing maximum strength and positive guarantee against any leakage of refrigerant.





Threads machined to S. A. E. Standard No. 3; closer limits than is common with many manufacturers.

Buying fittings on a basis of weight or count is unsafe in the refrigeration industry. . . . So many factors of safety must be included that manufacturers, for their own protection, have learned to deal only with reliable sources.

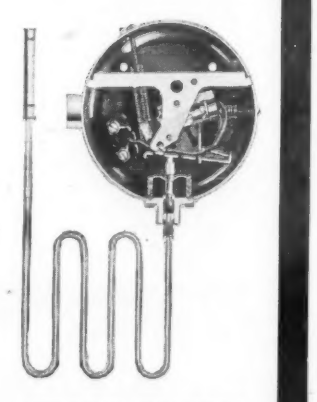
Ever since the birth of the industry, this organization has supplied the leaders with the last word in fittings and now manufactures the most complete line of seepage proof fittings. Send for Catalog No. 36, fully descriptive.

COMMONWEALTH BRASS CORPORATION

COMMONWEALTH AT G. T. R. R.

D E T R O I T

• find out about this special MERCOID for commercial refrigeration



MERCOID CONTROL
No. 858
MODEL LL-1

Furnished in ranges minus 10° to plus 25° and plus 10° to plus 50° with a differential as close as 2½° or as wide as 12°. Changing the cut-in point at high does not change the cut-out point at low.

LOW in price, accurate in operation, absolutely dependable, and requiring no service this new Mercoid has been especially designed for control of temperature on commercial refrigeration. For frozen food cases, milk coolers, soda fountains, ice cream cabinets and many other uses, it gives perfect, automatic control. Easily adjusted for any cut-in or cut-out point.

There is a Mercoid for every refrigeration need—to control by pressure or by temperature. And there are Mercoids that combine automatic control with high pressure cut-out in one instrument.

Mercoid controls, for regulating temperature, pressure or vacuum operate with the well-known Mercoid switch—no exposed arc—no corrosion of contacts—and the control carries full line current, either 110 or 220 volts.

Write today for complete information on these instruments and the Solenoid Valve for water cooled units.

Accessories Division • *Dept. MER-12*

AMERICAN RADIATOR COMPANY

Division of

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

40 West 40th Street, New York, N. Y.

"Mr. Jones, this refrigerator is insulated with Dry-Zero . . . the most efficient commercial insulant known!"

Both men and women understand and respond most quickly to sales points as *brief* and *conclusive* as this.

DRY-ZERO CORPORATION, MERCHANDISE MART, CHICAGO, ILLINOIS

Canadian Office — 465 Parliament St., Toronto

DRY·ZERO

THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

BOHN PIONEERED THE PORCELAIN REFRIGERATOR

This is but one of the many advances pioneered by the BOHN engineers during thirty-five years of quality manufacturing.

BOHN has built thousands of cabinets for manufacturers of refrigerating machines who desired the utmost in beautiful and scientific construction to best set forth their mechanism.

BOHN would be glad to figure with those organizations who recognize that a quality all-porcelain refrigerator is a distinct merchandising asset.

BOHN REFRIGERATOR COMPANY
SAINT PAUL, MINNESOTA

Write for details of low prices now prevailing on stock models.

Refrigerator Cabinet Sales Total Nearly 52 Million Dollars in 1929

Washington, D. C.—The Bureau of the Census announces that according to a preliminary tabulation of the data collected in the Census of Manufacturers taken in 1930, the total value of ice refrigerators and cabinets for mechanical refrigerators shipped or delivered in 1929 by establishments in the United States engaged primarily in the manufacture of these commodities amounted (at f. o. b. factory prices) to $51,952,000. The establishments in the industry also reported other products to the value of $5,449,000, making a total of $57,401,000, a decrease of 1.3 per cent, as compared with $58,163,054 reported for 1927, the last preceding census year.

The statistics for 1929 and 1927 are summarized in the following table. The figures for 1929 are preliminary and subpect to revision. (See explanatory note below.)

[1]Not including salaried employees. The average number of wage earners is based on the numbers reported for the several months of the year. This average somewhat exceeds the number that would have been required for the work performed if all had been continuously employed throughout the year, because of the fact that manufacturers report the numbers employed on or about the 15th day of each month, as shown by the pay rolls, usually taking no account of the possibility that some or all of the wage earners may have been on part time or for some other reason may not actually have worked the entire month. Thus in some cases the number reported for a given month exceeds the average for that month.

[2]Manufacturers' profits cannot be calculated from the census figures because no data are collected for certain expense items, such as interest on investment, rent, depreciation, taxes, insurance, and advertising.

[3]The cost-of-materials item for 1927 is not strictly comparable with the corresponding item for 1929 because of the fact that the schedule for 1927 provided for the inclusion of data on the cost of shop supplies, whereas that for 1929 stated that such data should not be included. For this reason no per cent of decrease is presented.

[4]Not reported separately.

[5]Value of products less cost of materials, fuel, and purchased electric current. The figures for 1927 are not strictly comparable with those for 1929 because of the change in the cost-of-materials item.

	1929	1927	Per cent of increase (+) or decrease (—)
Number of establishments	175	165	+6.1
Wage earners (average for the year)[1]	9,390	9,551	—1.7
Wages[2]	$12,557,000	$12,617,121	—0.5
Cost of materials, fuel, and purchased electric current[2, 3]	$24,005,000	$25,094,718	(3)
Products, total value[2]	$57,401,000	$58,163,054	—1.3
Ice refrigerators and cabinets for mechanical refrigerators, exclusive of mechanical refrigerating equipment	$51,952,000	(4)	....
Other products	$ 5,449,000	(4)	....
Value added by manufacture[5]	$33,396,000	$33,068,336	+1.0

B. D. KUNKLE EXPECTS UPTURN IN BUSINESS

By B. D. Kunkle
President and General Manager
Delco Products Corporation

WITH only about one-sixth of the present field for electric refrigeration already sold, and this field constantly enlarging, prospects for the future are encouraging and 1931 should see a considerable increase in volume of business. And, as there are many other industries linked directly with electric refrigeration, the benefit to these allied businesses should be felt correspondingly.

In spite of the fact that 1930 has been a year in which business in general has felt somewhat of a setback, the electric refrigeration industry has forged steadily ahead, with many companies reporting increases in business and earnings over those of the preceding year.

Figures for electric refrigeration, reported in the Jan. 14 issue of ELECTRIC REFRIGERATION NEWS, show that there are 3,000,000 electric refrigeration systems in use today, while a total of more than 20,000,000 homes are wired for installation. The year 1931 should see upwards of a million household units sold.

In the electric refrigeration business, itself, there are several lines which should show considerable increases during 1931. The electric water cooler business is one of these. Though the demand quickened considerably during 1930, it should grow much more during 1931. This market, which is comparatively new, is one to which the electric refrigeration industry has been giving considerable attention, and sales campaigns outlined for 1931 should be productive of results. Also, there should be a considerable increase in the field of commercial electric refrigeration, such as electric room coolers, electric milk coolers, and other types of commercial equipment. As this equipment is sold on an economy basis, the appeal should be particularly strong in 1931.

With the growth of the electric refrigeration industry there has been a corresponding growth in the manufacture of fractional horsepower motors, and the Delco Products Corporation anticipates a most favorable year in 1931. This increase will be not only in the line of standard equipment for the domestic type of electric refrigeration, but in the commercial line as well, with specially designed motors of somewhat larger horsepower.

From a manufacturing standpoint, the upswing in business will be felt from the start, due to the fact that the manufacturers of electric refrigeration have kept their inventories low, while the same condition has been maintained in the dealer organization. Increases in demand will be felt quickly by the manufacturers and passed on directly to the allied industries.

EXPORT SHIPMENTS OF ELECTRIC REFRIGERATORS

October Shipments Reported by the Bureau of Foreign and Domestic Commerce

	Electric Household Refrigerators No.	Electric Household Refrigerators Val.	Electric Commercial Refrigerators Up to 1 Ton No.	Electric Commercial Refrigerators Up to 1 Ton Val.
Belgium	16	3,162	38	8,647
Czechoslovakia	5	692	..	....
Denmark	5	666	..	....
Finland	7	319	..	....
France	148	15,671	133	8,336
Germany	1	159	..	....
Greece	1	134	4	298
Italy	17	2,901	..	....
Netherlands	86	11,890	..	....
Rumania	1	110	..	....
Soviet Russia in Europe	...	....	2	440
Spain	8	2,374	..	....
Sweden	35	3,558	..	....
Switzerland	122	15,876	18	2,769
United Kingdom	139	9,795	51	5,537
Canada	527	53,926	51	10,809
British Honduras	2	349	..	....
Costa Rica	2	460	..	....
Guatemala	10	1,292	..	....
Honduras	3	695	..	....
Nicaragua	11	1,672	..	....
Panama	59	12,043	4	782
Salvador	4	785	5	1,005
Mexico	121	19,193	14	3,542
Bermudas	8	1,357	..	....
Barbados	3	425	1	176
Jamaica	10	2,144	..	....
Trinidad and Tobago	2	337	..	....
Other British West Indies	2	487	..	....
Cuba	68	11,670	49	12,741
Dominican Republic	20	3,117	1	165
Netherland West Indies	13	1,925	2	850
French West Indies	11	853	..	....
Haiti, Republic of	20	2,828	3	1,313
Virgin Islands of U. S.	3	605	..	....
Argentina	158	25,231	24	13,994
Brazil	145	19,401	1	129
Chile	240	32,403	20	4,889
Colombia	21	2,138	1	907
Peru	3	336	9	1,022
Uruguay	210	29,653	24	4,824
Venezuela	64	8,770	21	4,722
Aden	8	1,439	3	759
British India	26	4,933	14	605
British Malaya	16	2,536	2	300
Ceylon	11	1,317	..	....
China	5	489	10	1,848
Java and Madura	19	3,896	5	447
Other Netherland East Indies	3	261	1	571
Hong Kong	14	585	..	....
Japan	14	2,157	4	1,218
Philippine Islands	68	7,574	27	9,446
Siam	1	190	1	210
Turkey	4	604	..	....
Australia	14	4,343	6	1,228
New Zealand	114	15,821	39	4,343
British East Africa	7	899	..	....
Union of South Africa	210	37,580	98	9,028
Gold Coast	12	1,660	..	....
Nigeria	40	4,445	..	....
Egypt	4	1,110	2	766
Algeria and Tunisia	12	525	..	....
Morocco	7	1,032	..	....
Mozambique	4	745	..	....
Canary Islands	1	445	..	....
Other Spanish Africa	1	151	..	....
Total	2,946	$396,139	688	$118,666
Shipments to—				
Hawaii	84	$ 15,170	21	$ 4,336
Porto Rico	37	$ 6,916	10	$ 967

LARGE ORDER INDICATES BUILDING REVIVAL

Seattle, Wash.—Contract for the refrigeration work in the new Tyler Apartment Hotel, to be constructed at Fifth and Madison Avenues, here, by the J. R. Delvendahl Company, has been recently closed by the local branch of the Electro-Kold Sales Corporation.

The new apartment building will be equipped with 250 built-in refrigerators and frost units and six large compressors.

NORGE APPOINTS HALLOCK IN SOUTH EAST

Detroit, Mich.—The appointment of Thomas P. Hallock as district manager for Norge in the southeast has been announced by Howard E. Blood, president of the Norge Corp.

Mr. Hallock has represented Kelvinator in this same territory for the past four years. He will continue his headquarters at Jacksonville, Florida.

LARGER QUARTERS FOR ZEROZONE OUTLET

Burlington, Iowa.—The Union Supply Co., Inc., agents in this district for the Zerozone refrigerator, has moved into larger quarters in the Elks Building. E. C. Anderson is president and C. H. Morford secretary-treasurer of the company.

NEW HARTFORD COMPANY

Hartford, Conn.—The Refrigerator Sales Co., Inc., has been organized to deal in electric refrigerator equipment and refrigerators. The incorporators are: Robert K. Smith, Theodore E. Whitney, both of West Hartford, and Walter R. Greenberg, Wethersfield.

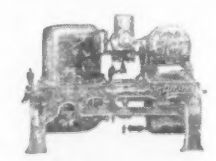
JURUICK OPENS THE WAY TO NEW SELLING OPPORTUNITIES IN COMMERCIAL REFRIGERATION

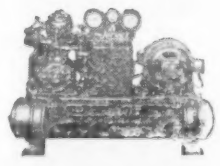
For *1931*

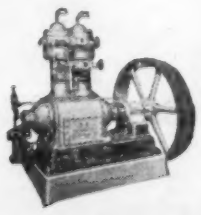
A complete line
Up-to-date machines
A liberal contract
Full merchandising co-operation
Backed by a famous organization

Self-contained automatic units
Compressors up to 40 tons capacity
Fittings, Accessories, Low Sides

¼-ton to 40 tons
7 Self-Contained Units
14 Compressors







Juruick offers the dealer a line of machines that is broad enough to take care of every requirement in the profitable field of commercial refrigeration.

Juruick machines provide the capacity to meet the new lower temperature demands in mechanical refrigeration.

Juruick machines are designed right, built right, merchandised right. They are good looking, quiet, compact, rugged... tested with ammonia under operating conditions before they leave the factory... proved in hundreds of installations throughout the country.

Juruick machines are easy to install. The self-contained units are shipped ready to connect.

Juruick dealers devote their time to *selling*—not to servicing—because Juruick machines require practically no servicing.

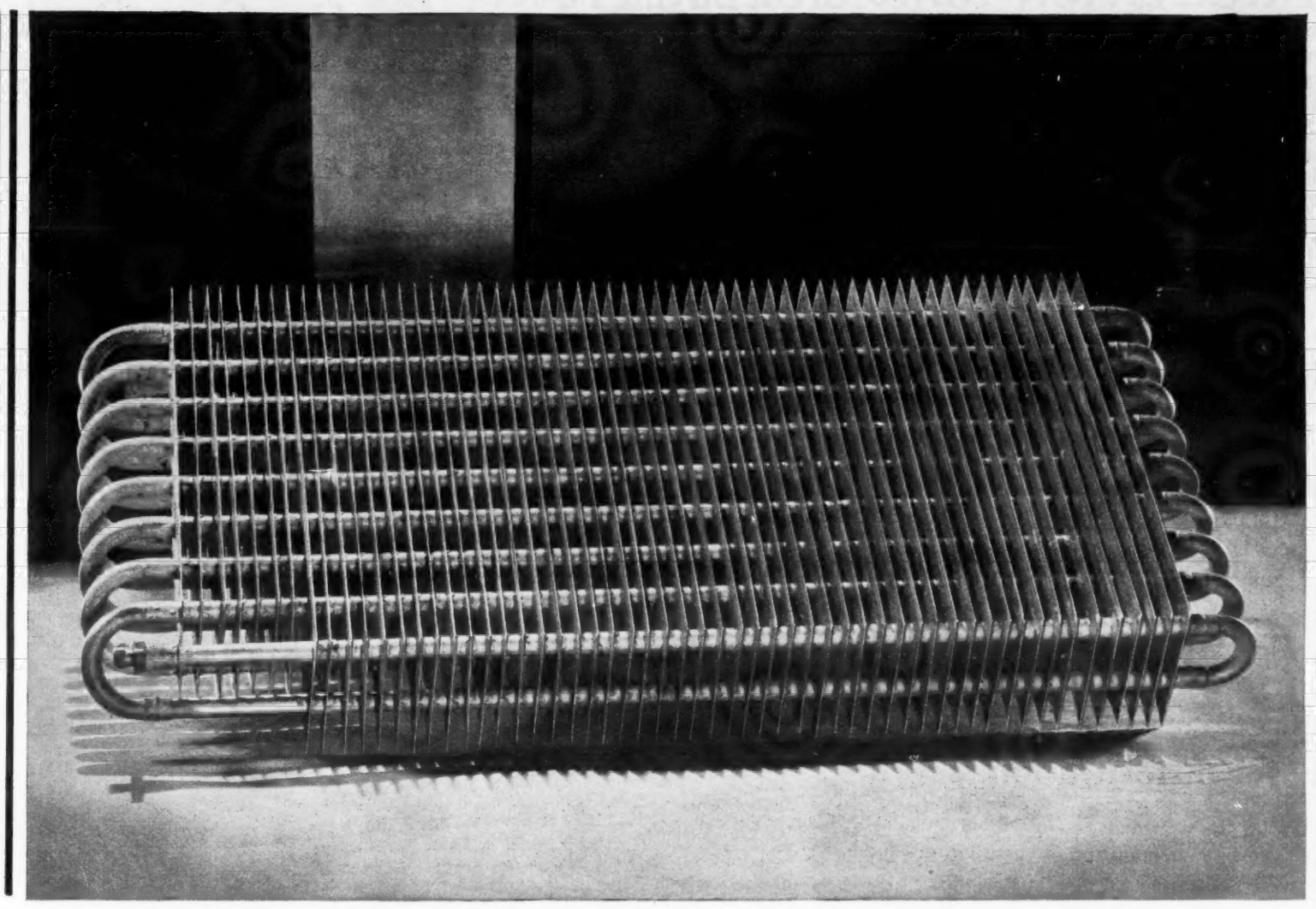
Juruick machines are manufactured by the builders of the Taylor Stoker, Lo-Hed Hoist and A-E-CO Marine Auxiliaries. They are a product of a company with adequate facilities, ample resources and more than seventy years of experience in designing and building high grade machinery.

Hydro-Thermal Grids

The new Hydro-Thermal Grid for low side cooling units combines the advantages of the "finned coil" and "sectional coil" in standardized stock grids for over-the-counter delivery and easy assembly. They can be used with any ammonia or methyl chloride system and are applicable to refrigerators, coolers, room cooling, display cases, frozen food cabinets, etc. Write for information.

AMERICAN ENGINEERING

AMERICAN ENGINEERING COMPANY, 2420 ARAMINGO AVENUE, PHILADELPHIA



ANOTHER SOURCE OF PROFIT FOR KELVINATOR DEALERS

. . . new DRY SYSTEM Cross Fin Coil is revolutionary development in commercial refrigeration . . .

From the dealer's standpoint, the most important development in commercial refrigeration in recent years is the new Dry System Cross Fin Coil, the latest achievement of Kelvinator engineers.

In this noteworthy advancement in refrigeration equipment, Kelvinator representatives have a source of profit which offers practically unlimited possibilities.

Take right in your own town. Every business . . . large or small . . . that needs refrigeration equipment is your prospect. With the new Dry System Coil, in addition to the widely known Flooded System Cross Fin Coil, which was introduced by Kelvinator three years ago, you have the correct, the finest, and the most complete equipment for every refrigeration need.

Every prospect for commercial refrigeration is a Kelvinator prospect—a fact which makes the Kelvinator franchise the most desirable to be found in the industry.

Let us send you complete information about the sales features and profit possibilities of the new Dry System Coil. It is the richest opportunity in electric refrigeration to-day. Use the coupon below.

KELVINATOR CORPORATION
14245 Plymouth Road, Detroit, Michigan
Kelvinator of Canada, Limited, London, Ontario
Kelvinator Limited, London, England

(216)

Kelvinator

Sales Dept.,
KELVINATOR CORPORATION,
14245 Plymouth Road, Detroit, Mich.
Gentlemen:
Send me details about the new Dry System Coil and the profit possibilities of the Kelvinator domestic and commercial lines.

*Name*_____
*Street Address*_____
*City*_____
*State*_____

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Two Weeks by

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Advertising Rates on Request

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Editorial Aims of the News

To encourage the development of the art.

To promote ethical practices in the business.

To foster friendly relations throughout the industry.

To provide a clearing house for new methods and ideas.

To broadcast the technical, commercial and personal news of the field.

The Urge for Information

ONE of the silver linings to the cloud of depression which darkened 1930 was the fact that the general consumption of reading material increased remarkably. Many publishing businesses, particularly the producers of books, report unusual activity and demand. Libraries have been rushed and crowded. Men who read but little in years past have turned to the printed page to get help in solving their problems, and the inveterate readers have been carrying home even more books and periodicals than has been their wont.

When sales activity drops off, business men have more time to read and think. Moreover, they are more acutely conscious of their need for information, for stimulating contact with other minds, and for knowledge of what those in situations similar to their own are doing. Even though the refrigeration industry crested the waves of the economic storm in much better fashion than most of its contemporaries, ELECTRIC REFRIGERATION NEWS answered the challenge of the times by printing an increased volume of editorial matter.

An analysis of the 27 numbers of the NEWS published in 1930 reveals the fact that a total of 852 pages were issued during the year, as compared with 716 for 1929, the previous high quantity year—a gain of 136 pages. A total of 38,036 column inches of strictly editorial matter, equal to 476 solid pages, appeared in the 1930 issues.

Of the pages of the NEWS issued during 1930, 56 per cent were editorial and 44 per cent advertising. When one considers that few business publications fill their columns with more than 30 or 40 per cent editorial material, the service being rendered by ELETRIC REFRIGERATION NEWS can be better appreciated.

A goodly proportion of the increase of editorial information appearing in the NEWS last year can be credited to the addition of the yellow Refrigerated Food Section, which made its debut March 26, and the pink Buyer's Guide Section, which was introduced July 30. The "yellow section" has kept the industry informed on the progress of the new quick-frozen foods, and has paid some attention to commercial and industrial refrigeration in all their many aspects. The "pink section" has been devoted to a variety of industrial services pertaining to the electric refrigeration business. Companion merchandise, business equipment for the dealer and distributor, materials and tools for the manufacturer, and refrigeration products, in turn, all received the spotlight of attention in these sections.

Readers of the NEWS have had varying reactions to these additional sections. Many have been enthusiastic, even lavish, in their praise of the editorial program which has disseminated so much additional and valuable information to the industry. Others have complained that the paper was becoming too bulky, that odd sections were occasionally lost, and that difficulty in filing the copies was encountered.

In reply to the conscientious objectors it has been pointed out that ELECTRIC REFRIGERATION NEWS is primarily a newspaper, and that printing a paper in several sections is a perfectly good and regular newspaper practice. In the newspaper publishing business getting out an issue rapidly is not only a major necessity but a major problem, and the advantage of being able to distribute the three sections among three different printing plants is of indubitable value in "making the deadline." Too, it has allowed for a division of labor among the members of the editorial staff. One editor concentrated his attention on the white section, a second on the yellow, and a third on the pink.

Mechanical considerations, however, are of secondary importance. The chief reason for the additional time, effort, and money expended upon the preparation of these extra sections lies in the fact that ELECTRIC REFRIGERATION NEWS is keenly conscious of the rapid rise in the industry's growth curve, and is acutely cognizant of its responsibility to keep pace with its fast-moving readers. Editorial plans for 1931 are now being formulated to help the NEWS increase its service to readers, and thus maintain its position as the recognized spokesman of the electric refrigeration industry.

Great Buying Power In Home, Says Executive

By John A. Berghoff
General Manager, Wayne Electric Refrigerator and Oil Burner Co.

THE war is over, and most of the appendages, hysteria and inflated delusions that went with it have spent their force. The return flight to normal was more or less a pleasant journey, and like most descents, the fall was thrilling, but the sudden stop is what jarred our senses.

Meanwhile we have grown into an obese nation, full of imaginary plagues with only one real ailment, that of possessing too much of everything. Now it is up to us to do some serious thinking to correct our digestive apparatus.

We have an abundance of everything from cats to airplanes. Even money is plentiful. It has merely digressed into tight hands.

Future business must be sought in the home, and those industries that sensed this fact have increased their volume and added to their profit during the past year.

The motion picture industry has continuously stimulated the amusement appetite by bringing into the home, under the guise of magazines, sample specimens of their pictures; and have been able to make us pay for the privilege of reading about their products. They have further used every performance to presell their future showings. The result, an increase in profits in spite of supposedly unfavorable conditions.

The life insurance companies have enlarged their earnings and have pioneered on the Home Street sales idea. The food stores have prospered, both through the telephone home delivery service and by extending their display

(*Concluded on Page 16, Column 1*)

On Our Bookshelves

"LOW PRESSURE SELLING"

Author: James A. Worsham, Sales Manager, Williams Oil-O-Matic Heating Corp. Publisher: Midwest Press, Bloomington, Illinois. Pages: 208.

EVEN though he is still a comparatively young man, James A. Worsham has sold life insurance, bonds, oil burners, electric refrigerators, grain elevator machinery, coal mining equipment, office equipment, and advertising.

In each of these varied selling experiences he has found that one sales formula invariably works. This formula he gives to the readers of his new book on salesmanship in the very first chapter; remaining chapers simply expand and illustrate the one central idea.

This common denominator of all selling is expressed by Worsham as follows: "Find out what people WANT—convince them that your product—or services—will satisfy those WANTS, and your prospect buys."

This Open Sesame to sales is repeated in some form or another throughout the pages that follow. The author tells many personal anecdotes (and tells them well) which are indubitably pertinent to his expository remarks. He tells how to dig up wants, how to develop wants where none existed before, and how to discover the wants of a prospect. Every time the words "want" or "need" appear in this book they are capitalized.

After discussing the value of indifference, Worsham dismisses all psychology with an indifferent gesture. "Making yourself understood" draws some attention, as does planning the day's work, the power of understatement, the use of advertising, and the employment of graphic aids. By far the most space, however, is devoted to the two highly important problems of "getting in" and "staying in." The author advocates the use of the planned presentation.

As one might expect from a man who makes so many speeches, the book is written in a terse, hortatory style. One feels that if it were read aloud—with gestures—it would be most convincing.

"ICE AND COLD STORAGE TRADES DIRECTORY AND REFERENCE BOOK FOR 1931"

Pages: 233

PRESENTING a maze of information of value to a refrigeration engineer, the Ice and Cold Storage Trades Directory and Reference Book for 1931, just published by Iliffe & Sons, Ltd., Dorset House, Tudor St., London, pertains mostly to the refrigerating industry of Great Britain and Ireland.

Of interest to the refrigeration engineer of any country are the many tables of temperatures, properties, and capacities which comprise the first 63 pages of the book. The remaining 170 pages include directory material which would be valuable to advertising agencies and manufacturers.

The following headings classify the directory portion of the volume: Companies registered since December, 1929; British Association of Refrigeration; Imported Meat Trade Association, Inc.; National Federation of Cold Storage and Ice Trades; Institut International du Froid; cold stores and ice factories; and the classified trades section of Great Britain and Ireland.

The advances made in the application of refrigeration to trade and industry during the past year are reflected in the many new headings and the several hundred new names that have been added to the classified trade section of makers and users of refrigerating machinery and appliances.

THE EXPANSION VALVE

By GEORGE F. TAUBENECK

J. M. Oberc, who is affiliated with F. B. Riley, Detroit distributor of refrigeration products, has a good one to tell about this competition business.

Not long ago Bill Seroy, the 16-cylindered master salesman from the Pacific Coast (now president of Zerite Products, Inc.) breezed into Detroit, and sold the Riley organization completely on the merits of Zorite—the chemical patty which has an affinity for odors.

All fired up with enthusiasm for this product, Oberc called on a Detroit distributor of a well-known electric refrigerator. Members of this organization listened attentively to Oberc's story, tested Zorite, and seemed much impressed.

"Very interesting," they pronounced.

But when Oberc attempted to convert this "interest" into an order, he walked into a flock of shocked protests.

"Our refrigerator has no odors," Oberc was told. "It produces an even, dry temperature," etc., etc.

Moreover, they backed up their assertions with offers to prove their point by tests.

"I'll tell you where you can sell a carload of that stuff, though," they informed Oberc, in a friendly, confidential manner. "Go over here to the Blank Ice Co. It'll be a godsend to them."

Convinced that he had been barking up the wrong tree, Oberc called on the ice company. Again his story was received with considerable interest and enthusiasm.

"Of course, you know," the ice men enlightened Oberc, "that ice refrigeration is never troubled with odors. All smells run down the drain pipe.

"However, if you go over here to So-and-So, Inc. (the distributor Oberc had just left) you ought to sell a ton of that stuff. We hear his machines are bothered considerably that way!"

The Valve's discussion of the rumblings of an awakening ice industry in the last issue of the NEWS has stimulated a couple of readers to tell us about ice men who are successfully and happily merchandising electric refrigerators and ice at one and the same time.

There is, for example, the Rochester, Minn., Ice & Fuel Co., which not only sells ice and electric refrigerators, but merchandises coal, wood, oil, and oil burners, too!

"Why should we worry," this company argues, "over a man who would rather burn oil than coal, or who prefers electric refrigeration to ice? We'll sell him what he wants." And they do.

Out in North Dakota — Grand Forks, to be specific—Hugh Dunlevy and his son, Jerome, have similar ideas. Back in 1927 they saw that electric refrigeration was cutting deeper and deeper into their trade, particularly into their commercial business. Did they whine or howl? On the contrary, they secured a dealership for an electric machine.

Oddly enough, they are finding that the electric refrigeration sales they are making help build up their ice business. Whenever they sell an electric refrigerator, they take an ice box in trade, and sell it at a low figure to a family which has not yet known refrigeration in its home.

The Dunlevys realize that somebody is going to sell electric refrigeration to more and more of their ice customers, and believe that they might as well be doing the selling and collect the profits. Their delivery men report at once any customer who is considering the purchase of electric refrigeration, and the Dunlevy salesmen get on the job at once.

Still another facet of the arrangement is the fact that the good will created by the sale of an electric refrigerator or an ice box can be converted into profit by selling the same customers coal and wood.

Recently a contributor ran across an item from one of those "25 Years Ago" columns that offer so many tasty humor viands, and sent it along to us. Being in a generous mood today, we pass it on to you.

The clipping was gleaned from a Columbus, Ohio, newspaper, and concerns Roy L. Wildermuth, Kelvinator distributor in that city. A long time ago Mr. Wildermuth succumbed to the political fever that infects so many natives of the Buckeye state, and became a police judge. Thus it is that we find, back in 1905, the following news item:

"Chewing gum on the witness stand in Police Court was barred by Police Judge Wildermuth, Wednesday."

It is reported that the ex-judge is unable to enforce the same rule in his stenographic department today.

The January prize for the Best New Use of the Month goes to Ted Low, of Boston, Massachusetts, who sold a small household refrigerator for use in a lady's boudoir. The purchaser hopes to keep her cosmetics in perfect condition by using this refrigerator. Negotiations are under way, we understand, to tint the cabinet pink. And in it, we suppose, she will keep her cold cream.

Incidentally, the enterprising Mr. Low sold a larger model for kitchen use to the same customer at the same time.

Late last summer this department got up a Buyer's Guide section devoted to delivery equipment. We thought we had covered all the known devices for transporting refrigerators. Comes now Harold Emigh, Frigidaire dealer in Walden, Colorado, to prove that we have merely scratched the surface of the field.

Snowstorms aren't pikers in Walden, and snowdrifts often baffle traffic in the surrounding mountain valleys. Undaunted, Mr. Emigh has designed, patented, and constructed an airplane sled which will zoom over the snow at 40 miles per hour!

He uses it not only for delivery, but for calls on prospects, service calls, and social engagements. We shall see that airplane sleds are properly listed in the next delivery equipment directory.

F. W. Mack, who manages an R. Cooper, Jr., store in Gary, Indiana, now believes in that tale about the goose that laid the golden egg.

Seeking a first-quality, large-size goose for a holiday feast, he motored out into the country. He found not only a goose that met his requirements, but a prospect for a G. E. refrigerator as well.

The goose raiser was as interested in purchasing electric refrigeration as Mack was in getting a good bird. So they got together in a mutually profitable manner.

Down in Evansville, Indiana, the boys at the Servel plant have envolved a brand new frozen food. They peel a ripe banana, insert a wooden lollypop stick in one end, and then place the banana in an ice cube tray for three hours.

After the banana is frozen, it is "dunked" in melted chocolate, which immediately freezes to the banana. This further evolution of the Eskimo Pie principle is having a big wave of popularity, we are informed.

THE NEW COPELAND DOMESTIC LINE

The Copeland domestic line for 1931 represents the most complete, beautiful and advanced group of models that Copeland has ever offered! It combines those outstanding refinements and conveniences that have made electric refrigeration so popular in the American home.

In presenting the 1931 line Copeland gives electric refrigeration distributors and dealers a greater opportunity to make money than ever before! Study the sales advantages described below — consider the high standing that Copeland has gained in the industry and its reputation for assisting sales outlets to operate on a sound and money-making basis . . . You can come to but one conclusion—that you can sell the new Copeland more easily, more quickly, and far more profitably! Now is the time to write for sales franchise details—to get full particulars on the line that—

OFFERS THESE MAJOR ADVANTAGES

COPELAND COLDIAL
Accessible and convenient — direct acting—enclosed within the cabinet. Regulates temperature, speeds ice freezing and permits easy defrosting.

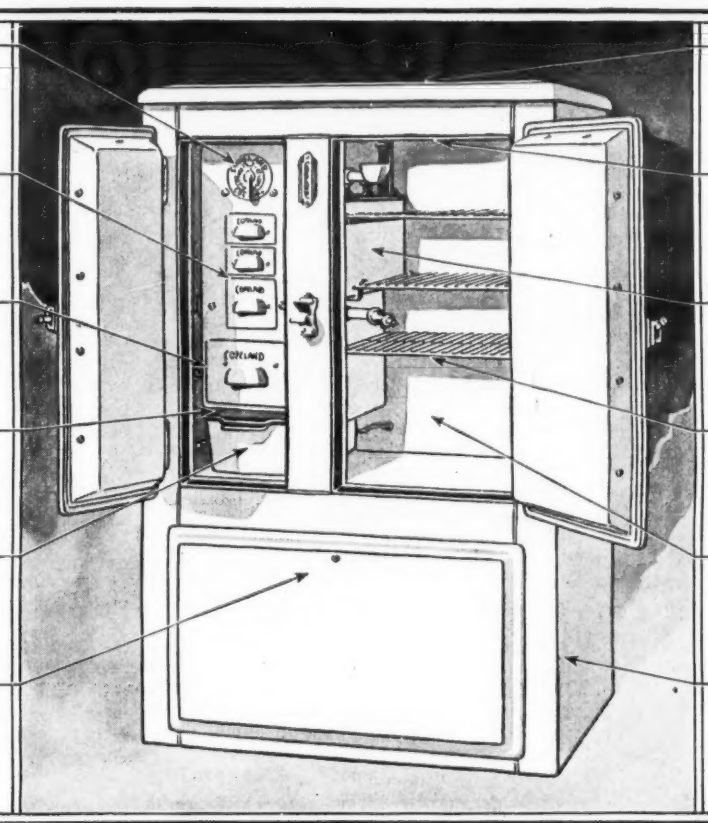
PLENTIFUL ICE SUPPLY
Ice cubes are quickly frozen — and quickly ejected from the flexible rubber tray. The double-depth tray may be used for ice cubes or frozen dainties.

COPELAND COLDRAWER
A large, near-zero compartment for storing frozen foods, preserving meats, game or poultry—for freezing desserts, or an extra ten-pound block of ice.

COPELAND COLD-TRAY
Serves triple purpose. A cover for the Coldcrisper. A tray for foods. A receptacle for catching drip when defrosting—no insanitary drain pipe.

COPELAND COLDCRISPER
A pan for storing leafy vegetables. Keeps them fresh, moist and crisp. Freshens wilting or drying leaves—makes greenstuffs more appetizing.

SIMPLIFIED MECHANISM
Unobtrusive — permanently quiet—fully enclosed—yet entirely accessible when *locked* unit compartment is opened. Provides abundant power.



DEEPLY EMBOSSED TOP
Unobstructed—permits enclosed installation — provides usable shelf space. Available in colors to match the decorations of your kitchen.

AUTOMATIC ELECTRIC LIGHTING
Interior automatically flooded with light as food compartment door is opened. Permits inventory at a glance. Light goes out when cabinet is closed.

COPELAND WATER CHILLER
Makes cold drinking water available at touch of faucet. No plumbing connections needed. Can be removed, cleaned and replaced quickly and easily.

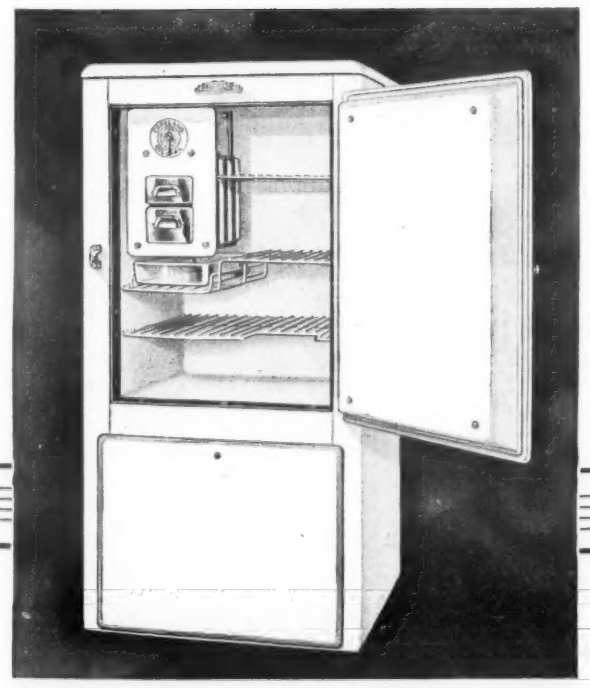
CONVENIENT, BAR-TYPE SHELVES
Copeland design permits convenient shelf height — no stooping to peer at too-low shelves. Bar-type grills allow dishes to slide with the utmost ease.

WHITE PORCELAIN INTERIOR
Glass-hard—readily cleaned. Corners and angles are rounded for further ease in cleaning. Exterior finish is white porcelain or white enamel.

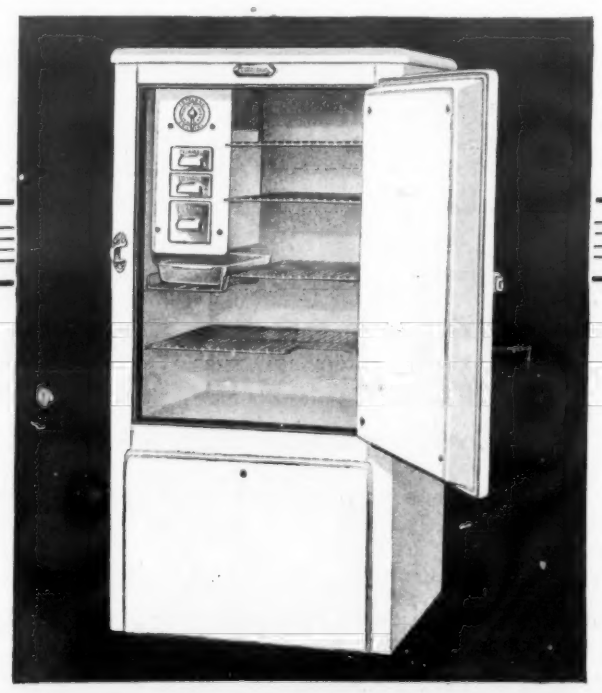
FULL SELECTION OF MODELS
Many sizes are available—all with unusual beauty of line and proportion, enhanced by brilliant, chromium-plated hardware. Wide range of prices.

ELEVEN striking models are included in the 1931 Copeland domestic line. Cabinets are of superb beauty—with graceful contours, modern-type tops, extra-heavy doors and gleaming chromium-plated hardware of special design. Pictured here are three representative models which give a cross-section of the 1931 Copeland domestic line.

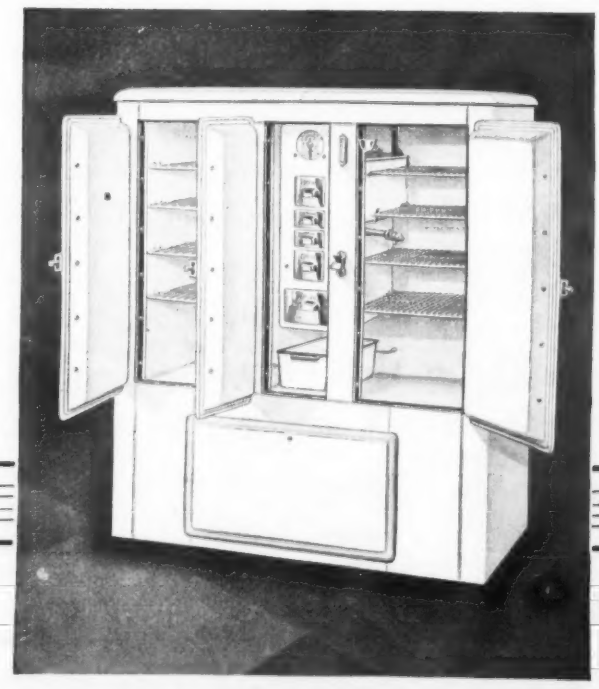
COPELAND SALES CO., 332 CASS AVE., MT. CLEMENS, MICH.



REPRESENTATIVE MODEL FROM COPELAND "A" LINE
Four Models, Numbers A-411, A-521, A-551 and A-701. Features: White porcelain interior, white enamel exterior — two-tone chromium-plated hardware — coldial — water chiller, optional—over 4 cu. ft. to 7 cu. ft. food storage space—from 8.75 sq. ft. to approximately 14 sq. ft. shelf area—63 to 108 ice cubes.



REPRESENTATIVE MODEL FROM COPELAND "P" LINE
Two Models, Numbers P-551 and P-701. Features: White porcelain interior and exterior—two-tone chromium-plated hardware — coldial — water chiller, optional — from 5.5 cu. ft. to over 7 cu. ft. food storage space—from 10.8 sq. ft. to approximately 14 sq. ft. shelf area—108 ice cubes.



REPRESENTATIVE MODEL FROM COPELAND "E" LINE
Three Models, Numbers E-661, E-901 and E-152. Features: White porcelain interior and exterior—two-tone chromium-plated hardware — coldial — water chiller — coldrawer — coldcrisper — electrically lighted, automatically—from 6.6 cu. ft. to over 15 cu. ft. food storage space—from 11.7 sq. ft. to over 24.3 sq. ft. shelf area—108 to 162 ice cubes.

Court Holds Recorded Lien on Property Dealer's Only Recourse

By J. E. Bullard

IN the ordinary course of his business an electric refrigerator dealer sold a refrigerating system to the owner of an apartment house. The usual notes were signed by the owner. The sales contract gave the dealer title to the system until the final note was paid. It was a usual transaction. Other systems had been sold in exactly the same manner and the outcome had been satisfactory.

This particular installation was a multiple system and was sold and installed in Rhode Island. When installed it naturally appeared as a part of the building rather than something that would ordinarily be put in and taken out again.

For a time the owner of the apartment paid his notes regularly and then he got behind. When he was pushed for payment he stated that he had sold the apartment house and that the balance should be collected from the new owner.

The new owner refused to pay and the dealer brought suit. This dealer had found from experience that it was more satisfactory for him in the long run to sue on an account like this than to remove the installation, and had collected accounts in that manner before. In this case, however, he was not suing the person who signed the notes, but the new possessor of the property.

This new owner fought the suit on the grounds that when he bought the apartment house he received title to the refrigerating system as well as to the heating system, the plumbing and everything else of this nature that was in the building. The title had been searched and there was nothing on record to show that the refrigerating system was not fully paid for. The court upheld the owner and held that the refrigerator dealer not only had no recourse against the owner, but that he could not remove the installation. He would have to collect from the person who signed the notes and not from the person to whom the purchaser of the system had sold it.

In rendering this decision it was made clear that had individual refrigerators been installed in each apartment, refrigerators that were in no way connected or built into the building, the dealer could remove them.

In the case of the system that was installed, however, which appeared to be a part of the building in that parts of the system were built in, there was no reason for the purchaser of the building to be aware or to suspect that the system did not go with the building.

Therefore, since there was nothing on record in the office of the recorder of deeds, the new owner of the building became owner of the refrigerating system as well.

No Paper Recorded

It was pointed out that the error the dealer made was in not recording a contract, mortgage or other paper with the recorder of deeds that would show that the unpaid notes on the system were a lien on the property.

Had there been such a record it would have been discovered when the title was searched, the balance due on the system would have been deducted from the purchase price, and the purchaser of the building would have taken title subject to an obligation for the payment of the balance due.

The important point in this decision is that it brings refrigerators of certain types within the old rule that anything that is built into a building in any way becomes part of the realty and cannot be removed when the ownership of the building changes hands.

It is not possible to collect from the new owner unless there is a recorded lien on the property. Just how far-reaching such a decision may be, can be seen, especially if courts in other states take the same viewpoint.

Concrete Example

Suppose, for example, that a dealer sells individual refrigerators to an apartment house owner at the time the building is being erected.

In order to save the maximum of space and to improve the appearance the owner has spaces provided in each kitchen just large enough for the refrigerators. Then the refrigerators are built into these spaces in such a manner that they cannot be removed without removing parts of the finish in the kitchens that hold these refrigerators firmly in place. It might be a case of the tile work in the kitchen coming up flush with the refrigerator, the box itself being set in a recess in the wall so that its front is flush with the walls.

It is obvious that the prospective purchaser of the building would take it for granted that these boxes were parts of the building. Even though the installation were not made until after the building was erected, the impression would still hold.

However, all these refrigerators might have been bought on the installment plan, and there may be several more notes to pay. Unless there is a record in the office of the recorder of deeds or officer with like authority, depending upon the particular jurisdiction; unless some recorded lien is held on the property, nothing could be collected off a purchaser of the building and the refrigerators could not be removed.

It is doubtful if the dealer could remove the refrigerators even though the original purchaser of the refrigerators continued to own the apartment house and refused to pay the balance on the notes and it was discovered that he was in such financial straits that the cash could not be collected from him if sued.

Must Watch Carefully

This means that unless a dealer keeps watch of the refrigerators he sells for use in such buildings, it may happen at any time before the final payment is made that sufficient remodeling will be done to place his refrigerators beyond recovery and he may know nothing about it until it is too late. The only safe way, therefore, in a case like this is to make the lease, notes, or sales contract a recorded lien on the property.

When refrigerators are sold to people who do not own the houses in which they live, this is not so likely to happen, as the individual has his own rights to maintain.

However, if a person living in a rented dwelling house buys that house before he finishes paying for the refrigerator, and then while doing some remodeling, builds the cabinet into the building, the dealer would probably experience a good deal of difficulty in recovering that refrigerator in case the purchaser refuses to pay the balance on the notes.

It might also happen that the house owner had so little equity in the house on account of the first, second and third mortgages on it, and possessed such small assets of other kinds, that it would be difficult to collect if he refused to pay. Of course, in some states an attachment might be put upon his wages or salary, but then he might resort to bankruptcy and the dealer would be little better in the end than he was at the start.

This all suggests that where refrigerators are to be built into the building in any manner, a recorded mortgage on the property, or some other recorded lien, should be held. In other cases, it may prove profitable in the long run to give free service calls at regular intervals until the final payment is made. The service man will be able to discover whether or not the cabinet is being built into the building, and before the job is completed steps can be taken to secure the dealer against loss.

Of course, another plan would be to state in the lease that all unpaid notes become due and payable as soon as the cabinet is built in.

Westinghouse Inaugurates New Plan

Mansfield, Ohio—Introduction of what is known as "The Big Package Idea" is expected by Westinghouse officials to account for valuable savings in sales promotion costs of Westinghouse refrigerator dealers.

Through this plan dealers buy several months' supply of sales promotional material, pay for it in advance, then receive regular shipments at the first of each month. The cost of such material is sold to them at greatly reduced prices due to the lowering of handling, ordering and shipping costs.

The Westinghouse Sales Promotion Department decided what most dealers would require, then created standard packages. Each package contains a supply of material for one month.

Dealers ordering the material for the three months will receive $50.00 (list price) worth of printed matter, signs, banners, displays, and other sales promotional adjuncts, for $30.00, thus effecting an immediate saving of $20.00. In addition to the saving in money, they will save their own time and expense in obviating the necessity of ordering new material as it is announced. They will receive the new sales aids as rapidly as they are developed.

The first "big package" will contain material valuable to the new Westinghouse dealers, such as an electric sign, a spotlight, a window display, a counter easel, a cloth banner, and decalcomanias, booklets, folders, proposal forms and direct mail folders. The succeeding packages will contain window displays, booklets and direct mail pieces as they are produced.

The larger dealers can order an extra package subscription sent to them, or they may order additional booklets and folders at the regular prices. Packages will not be broken, according to this plan.

After the completion of the first big package series, another one will be planned so as to continue the passing of the benefits of the lowered costs to the dealers.

SELLER LOSES TITLE TO REFRIGERATION SYSTEM

Providence, R. I.—Title to a refrigerating system sold on a conditional sales contract, but not paid for by the purchaser, when so installed as to lead a person examining the building with a view of purchasing to infer that it had been installed for permanent and not temporary use, passes with title to the property into which it is built, the Supreme Court held recently in an opinion written by Justice Elmer J. Rathbun.

Anna E. W. Cohen, of this city, filed a bill in equity in Superior Court ask- Corporation and the Frigidaire Corporation be enjoined from removing from an apartment house, which she had purchased from Harry Soren and wife, a refrigerating system. A balance of $604.66 is still due the respondent corporations under the terms of the contract by which Soren was to pay for the cooling apparatus, title to remain in the seller until full payment had been made.

The opinion says that the complainant had no knowledge that the respondent corporations had any claim against the refrigerating system, and determines that she obtained title to it as a part of the real estate.

The system consists of a compressor, situated in the cellar, with separate coils in each of the 18 apartments, and lines of copper tubing running from the compressor to each coil. The coils and compressor can be readily disconnected from the tubing, and the respondents they start to remodel, find that it is more expensive than they had realized. They also find that it increases the market value of a house materially.

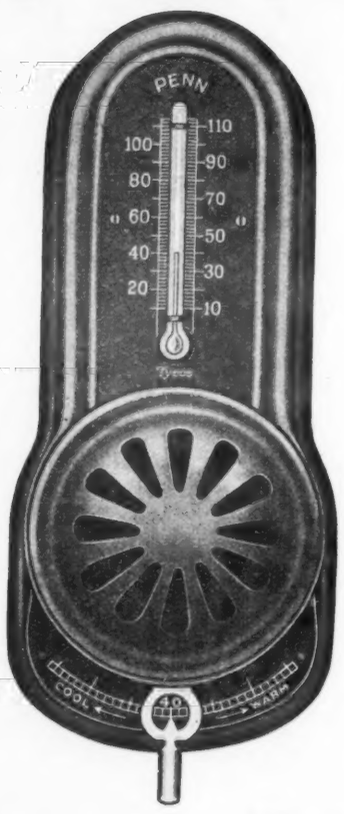
The contract between the Sorens and the respondents is not binding upon the complainant, as she is an innocent purchaser without notice, the court holds. There was nothing about the appearance of the system, and nothing upon the real estate records to put her upon notice. The Frigidaire Corporation so annexed its property that the complainant was warranted in her inference that the system was a part of the real estate, the opinion says.

BAKER MAKES SHIPMENT TO FIJI ISLANDS

Omaha, Nebr.—The Baker Ice Machine Company recently shipped a carload of ice making machinery for export to Suva, the capital and principal city of the Fiji Islands.

This order marks the fortieth foreign country that now uses Baker equipment.

PENN



Type 'B' Thermostat for Refrigerated Room Control

Has these important features:

Extreme Simplicity.

Utmost Reliability.

Close differential—2°
(May be furnished for wider operation if desired)

Scale and Outside Lever for Convenient Setting.

No Mercury Tubes.

Heavy Butt Silver Contacts.

Operates on Line Voltage.

Motor Rating—⅓ HP, A.C. or D.C.

Snap Action through Penn Magnet Structure.

Sensitive Bi-metallic Coil.

Tycos Thermometer.

Underwriters' Listing.

PENN TYPE 'J' Unit Control
For Domestic Electric Refrigerators

One Dial Control
Thermal Overload Protector
Range and Differential Adjuster
Temperature Selector*
Start and Stop for Defrosting
Simplicity—Low Installation Cost

*This feature is protected by exclusive license to manufacture for resale under Frigidaire patents.

Reliable manufacturers are requested to write today for complete information, specifications and sample, if desired.

PENN ELECTRIC SWITCH CO.
DES MOINES, IOWA

With offices in the following cities: New York, Boston, Philadelphia, Cleveland, Cincinnati, Chicago, San Francisco, Los Angeles, Seattle, London, England; Barcelona, Spain; Osaka, Japan; Lyons, France

KULAIR Electrical Refrigerating Products

Simplicity, quality, efficiency and capacity unequaled. A size for every use.

Compressors from 95 Lbs. to 4300 Lbs. I. M. C.

NO. 1300 COMPRESSOR
Single Cylinder 1⅝ x 1⅝
300 to 425 R. P. M.

Condensing Units from Small Domestic to Large Commercial Capacities.

AIR COOLED WATER COOLED
METHYL CHLORIDE or SULPHUR DIOXIDE

POLICIES
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Providing Proper Profit To All Distributors.

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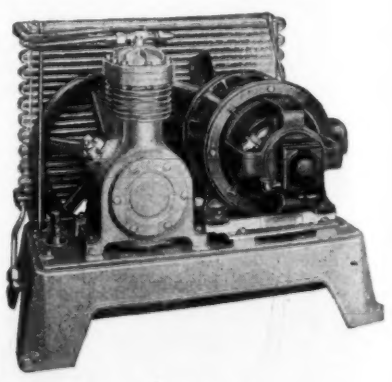


KULAIR CORPORATION PHILADELPHIA, PA.

SERVICE HINTS

By FRANK W. GRAY

When the freezing-up of a float valve indicates the presence of moisture in an apartment house system, an extra large size calcium chloride dryer will be found effective in removing it. Such an extra-size dryer can be constructed in any service shop by using a piece of 3-inch iron pipe about 18 inches in length, threaded at each end and fitted with caps into which the smaller brass unions for tubing connections have been sweated. A fine mesh copper screen should be placed at each end of the dryer, after the cylinder has been filled with calcium chloride, to prevent particles of the powder from disseminating through the system and clogging the valves. Reserve supplies of calcium chloride should be kept in glass jars sealed with paraffin.

In eliminating moisture from a large refrigeration system by means of a dryer, a great deal depends upon the effectiveness with which it is applied. The dryer should be connected into the liquid line, just ahead of the condenser, in order to absorb the moisture before it reaches the needle valves in the cooling units. The system should be thoroughly defrosted before the dryer is installed. Then the compressor should be turned on and off in short intermittent cycles so that the system will remain defrosted while the moisture is being absorbed from the circulating refrigerant. Dryers should be removed after twenty-four hours and refilled.

Where air-cooled compressors are installed, attention must be paid to the air circulation where the machine is located. Some service men have made the mistake of installing air-cooled compressors in closed basements merely because the air seemed cooler there than elsewhere. Compressor heat and heat given off in condensation will very shortly raise the temperature of a basement room to a point where condensation can take place only with dangerously high head pressure unless some provision is made for constant circulation of air to carry the heat away. In one instance which came to the writer's attention, it was necessary to install an air-cooled machine in a basement under excessive heat conditions, but a blower fan in the basement window which was connected to turn on and off with the refrigeration machine produced sufficient air circulation to cut the former running time of the machine in half.

The chattering and pounding in the water valves of water-cooled machines is sometimes caused by a wide variation of water pressures in the city mains. Such a condition can be alleviated by installing a vertical section of pipe into the water supply line behind the valve in such a way as to serve as an air dome. This air dome will cushion the valve against quick changes of pressure which cause it to chatter and pound against its seat.

In case it becomes necessary to convert an air-cooled compressor into a water-cooled, a very effective emergency water condenser can be constructed in the service shop by running ¼-inch copper tubing through ½-inch copper tubing, and bending about a fifty-foot length of this double tube into a circular coil which can be bracketed upright on the base of the compressor or on a shelf nearby. The water should, of course, be circulated through the inner ¼-inch tubing. Connections may then be sweated into the water supply and waste lines, and also into the refrigerant liquid line leading from the head of the compressor. A water valve should then be placed at the end of the water circulation coil, and the waste line carried away into the sewer. Or, a water tower may be installed.

A horizontal loop turned in the liquid and suction lines of copper tubing before entering the condenser and crankcase of the compressor respectively, will prevent the normal vibration of the machine from being carried up the copper tubing lines which follow the walls into the living quarters of the house. Such loops are particularly effective in eliminating vibration which is otherwise almost unavoidable where large compressors are used in apartment house or commercial installations.

In lowering the costs of apartment house installation work, a great deal depends upon the efficiency of organization. Such labor-saving devices as electric drills, good tubing cutters and flare tools, adequate ladders, and even pneumatic drills are indispensable to fast work. Before a single foot of tubing is run, all necessary holes should be bored. Certain men should be detailed to bracket cooling coils into boxes, while others specialize on the running of tubing and making of flare connections. By cleverly organized installation methods the writer has seen six service men complete a good installation of fifty apartment units in two days, with correspondingly low installation costs.

Tork clocks can be effectively used to automatically de-frost commercial as well as apartment house systems daily, during the early hours of the morning when the refrigerators are not in use. Frost detracts from cooling unit efficiency, and de-frosting of coils should not be neglected.

TILTING OF COILS IS DONE TO SEAT VALVES BETTER

January 13, 1931
Electric Refrigeration News,
Detroit, Michigan
Gentlemen:

I have your copy sent me of Mr. Leo C. Kilduff's letter, which comments upon two of my "service hints" as published in a recent issue of your magazine.

Mr. Kilduff's contention that a *slight* tilting of an apartment house coil can cause an oil condition in the coil is not substantiated by the experience of various expert service men I have consulted. In fact, an oil logging condition in apartment house coils is usually the result of insufficient refrigerant in the system, either because of leaks, or because the charge was not heavy enough to begin with.

The practice of slightly tilting apartment house coils is an old precaution among experienced apartment house installation crews. I expressly said "slight," meaning that the coil should not be tilted enough to cause a perceptible slope to the level of the ice in the ice trays.

The reason for the tilting is simply this: In a large batch of coils, there are almost certain to be a few whose needle valves are not perfectly calibrated. This causes poor seating of the valve when the coil is loaded with refrigerant, and a consequent back frost on the suction line. Of course, such imperfect valves can be removed and properly calibrated, but a slight tilting of the coil accomplished the same result of making the needle valve seat more positively, thus preventing back frosts.

I should perhaps have designated in the service hint that the older type of Kelvinator coil should be tilted up at the back instead of the front, but since I am trying to make these hints as brief as possible I did not go into further details.

As for the expedient of putting a fan into a commercial refrigerator in order to make the air circulate, I have always regarded this as being an expedient which should be unnecessary if the coil is properly specified for the box which it is put into, and is properly baffled for air circulation when installed.

Mr. Kilduff cites the example of a box kept at 36 degrees in a store with a temperature of 40 degrees. Inasmuch as I cannot imagine a butcher shop being kept at a temperature of 40 degrees, there is no need to comment on this example. Even during cold weather butcher shops are seldom under 60 degrees in temperature.

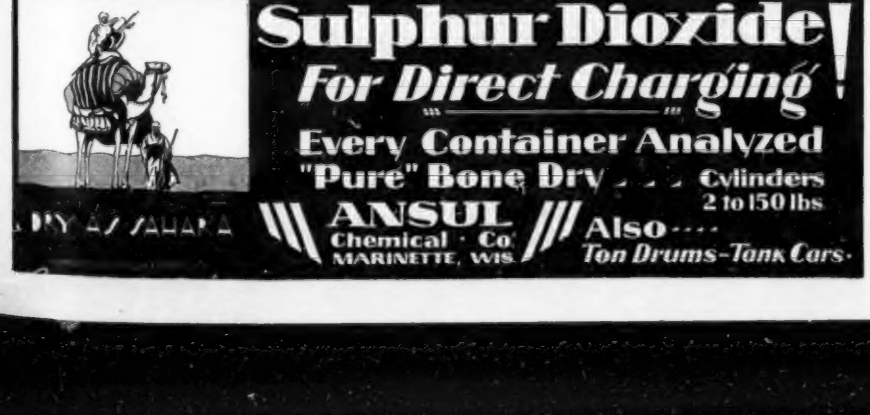
The only type of installation in which I can imagine a fan being practical is in the case of a long show case, which is refrigerated from coils placed at one end. In this type of installation a very small, slow-speed fan should be used. Even in this installation, however, correct air baffling will obviate the necessity for such a fan.

Rapidly circulating air dries meat—that is the reason for not using fans.

I trust that my observations in these matters will make my position clear to you and to Mr. Kilduff.

I shall be glad to answer in detail any other inquiries which proceed from "Service Hints."

Very truly yours,
FRANK W. GRAY,
454 El Camino Real,
San Mateo, Calif.



Simplified Refrigeration

How the new SERVEL HERMETIC offers your customers this irresistible combination—vastly improved and simplified household refrigeration at prices within comfortable reach of every income...

THE new Servel Hermetic extends your market for electric refrigeration to include practically every wired home in your community.

It takes electric refrigerators out of the "luxury class" forever—makes them a simple, every-day necessity.

With three models under $200.00, F.O.B. factory, thousands of new prospects will welcome the chance to enjoy all the tremendous conveniences of Simplified Refrigeration.

The old Service Problems are ended. The Servel Hermetic requires fewer moving parts than other electric refrigerators—and is permanently sealed to eliminate kitchen repairs, intricate adjustment and future replacement of parts.

You serve your customers entirely as a merchant without any need for a costly Service Department. When you sell a hundred jobs you can figure your net profits accurately—without having them eaten away by future Service expenses.

Backed by the Servel factory guarantee

The Servel factory guarantee protects both dealer and purchaser—provides not only the usual protection against defective parts but freedom from the expense of repairs for any reason except abuse.

Write us today for a complete description of the Servel Hermetic—with details of the attractive Dealer Plan that insures profitable business.

SERVEL SALES INC., EVANSVILLE, INDIANA

MANUFACTURERS OF A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATORS

SERVEL
HERMETIC

NATIONALLY ADVERTISED TO MILLIONS... Watch for the powerful series of consumer advertisements already appearing in The Saturday Evening Post—full pages in full colors featuring the new Servel Hermetic.

NEWS OF ACTIVITIES, EQUIPMENT OF INTEREST

SERVICE MEN ORGANIZE FOR CREDIT PROTECTION

Los Angeles, Calif. — Refrigeration service companies operating here have banded together for credit protection.

At the invitation of Refrigeration Service, Inc., a number of representative companies recently met to discuss the possibilities for a credit association.

Several preliminary meetings resulted in the formation of the Refrigeration Credit Association, with the primary object of credit protection for its members. Martin Goldman has been named general manager of the organization.

The association will act as a clearing house for collecting and disseminating refrigeration information and will assist in promoting legislations favorable to the refrigeration trade.

As one of its first official acts the association recently called a meeting of its members, at which time A. B. Wicks, heating and ventilating engineer for the city of Los Angeles, explained the recently adopted Los Angeles refrigeration code and its probable effects on service operations in the city of Los Angeles.

WATERBURY FIRM TO DEAL IN NEW AND USED MODELS

Waterbury, Conn.—Chesson & Reed, Inc., has been incorporated to deal in new and used electric refrigerators.

The incorporators of this company are: W. F. Reed, E. V. Chesson and Anna L. Reed, all of Waterbury.

New Refrigerator Tester

THE Weston Electrical Instrument Corporation of Newark, N. J., announces an instrument designed especially for making electrical tests during the installation and servicing of Majestic electric refrigerators. This instrument, known as the Weston Model 575 Majestic Refrigerator Tester, has been approved by the Majestic Household Utilities Corporation for the use by its distributors and servicing organizations.

The test set is completely self-contained. It is equipped with two meters, a volt-ammeter, range 0-600, 0-150 volts and 0-15 amperes, and a wattmeter, range 0-500 and 0-50 watts. It also has three separate load receptacles for plugging in the refrigerator lead for current and power tests, two binding posts for voltage measurements, voltage range changing and selector switches, a nine-foot cable, a plug for wall socket and a fuse protection for the low current coil of wattmeter.

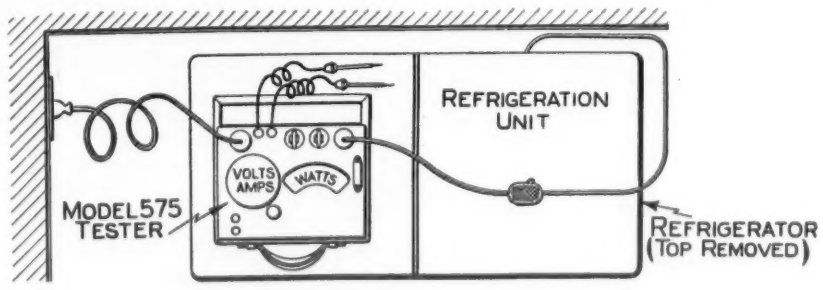
The instrument is simple to operate. It is placed in a convenient place for checking such as beside the refrigerating unit after the refrigerator top has been removed. The tester is connected, as shown in the diagram, by inserting the refrigerator connection plug in the proper receptacle of the tester and then connecting the tester to the line by means of the nine-foot cable. The instrument is then ready for making the desired tests.

In testing the line voltage it is only necessary to turn the voltmeter selector switch to "Line Voltage," and read direct on the 600-volt scale. If the readings are less than 150 volts press the button marked "Press for 150 volts" and read on the 150-volt scale. To make voltage tests at points within the refrigerator such as testing the transformer voltages, turn the voltmeter selector switch to "Test Voltage." This connects the voltmeter across the test voltage binding posts and by means of the test prods connection can be made across the desired circuit. If the readings are less than 150 volts the range selector button is pressed for low range reading. When the voltage selector switch is turned to "Test Voltage" the voltmeter is isolated from all other internal connections and may be left connected if desired except when making current readings.

The ammeter is used in checking the overload switch, the motor starting current and the running current. It is only necessary to turn the selector switch to "Test Voltage" and plug the refrigerator connector in the 15 ampere receptacle. The reading is given direct on the ammeter scale of the voltmeter.

The two wattmeter ranges are designed for checking both the main motor and the fan motor. To check the normal operating power the refrigerator plug is placed in the 500-watt receptacle and the button "Press for Watts" depressed to obtain wattmeter reading. This should be between 240 and 270 watts for normal operation. When checking the fan motor the main motor is disconnected from the circuit at the starting switch and the refrigerator connector plugged into the 50-watt receptacle. This 50-watt circuit is fused against burn-out if wrong connections are made. Spare fuses are carried in the cable compartment of the tester.

The Model 575 is contained in a strong oak case with a snap-on cover. Its dimensions are 7 x 9½ x 5 inches and it weighs approximately 10 pounds.



Connection Chart of Weston Refrigerator Tester

Cates Does a Bit of Police Work

New York, N. Y.—The Independent Refrigeration Service of New York City, a young up-and-coming organization, under the leadership of Howard N. Cates and James L. Campbell, reports the following incident:

Mr. Cates, while inspecting a soda fountain job which had just been installed by his men, was forced to go through a poolroom which was located in the basement underneath the store where the job had been installed.

Just as he settled down to work a fight started between two habitues of the place, which threatened to result in the destruction of several of the owner's chairs, glasses, cues and so forth. Mr. Cates, who was in the same corner in which the men were fighting, determined to do his bit, and released a sufficient quantity of SO_2 to bring the young bucks to reason. The proprietor was so grateful that Mr. Cates was able to get an order for all repair work to be done in future on the premises.

COPELAND SERVICE CALLS COME IN FOUR CLASSES

Detroit, Mich.—Service calls at the Copeland Sales Co. here fall into four general groups, according to J. E. Walker, assistant service manager of the department which handles all the servicing of Copeland machines in Metropolitan Detroit. This organization answers all calls for service on commercial machines within one hour after they are received, so that no business will have its trade jeopardized by lack of refrigeration. Domestic calls are also answered promptly.

The four general classes of service calls which Mr. Walker refers to are, in the order of their numbers: 1. The machine runs continuously. This is usually caused by lack of refrigerant (often a leak), an obstructed or dirty expansion valve, or a restriction in the liquid line.

2. The machine doesn't operate at all. The Copeland men find that this is usually caused by an electrical failure, such as blown fuses or a loose current wire.

3. The cooling cabinet operates at the wrong temperature, too warm or too cold. The service men find that this practically always is caused by an improper setting of the thermostat.

4. The machine operates with noise or vibration. Mr. Walker pointed out that this trouble may be due to a variety of causes. Any part of the moving mechanism which has worked loose, the end plate of the motor, worn motor rubbers, or a refrigerator which is not standing level on the floor—all are among the possible noise producers.

WODACK DEVELOPS NEW ELECTRIC TOOL

Chicago, Ill.—A small, portable drill, weighing twelve pounds, has been added to the line of electric tools offered by the Wodack Electric Tool Corp., 4627 West Huron St., here. This new device is known as the Wodack Electric Dual Twist and Hammer Drill and can be either operated as a hammer for drilling holes up to ⅞" in stone, concrete or brick, or a rotary drill for drilling in metal and wood. It can also be used for grinding or buffing.

The tool is furnished in a metal carrying case with star drills and twist drills. Grinding, scratching and buffing wheels and bench stand can be furnished as extras.

CREDIT WHERE CREDIT IS DUE

AQUAINT and original method of describing the refrigerating cycle was printed in the December 17th issue of ELECTRIC REFRIGERATION NEWS, and R. J. Lawrence, of the Trupar Manufacturing Company of Dayton, was hailed as the author. It now transpires that Mr. Lawrence didn't write it at all, but that the credit still belongs to Trupar because W. M. Myers of that organization is really responsible. In a letter to the NEWS, Mr. Myers makes it plain that Mr. Lawrence was not trying to claim authorship, but that the error was due entirely to a misunderstanding.

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SILENT
Built with the precision and care of a fine watch, the Leland Motor is enduring, rugged and dependable. It is so quiet that, standing three feet away, you cannot detect a sound. Investigate the exclusive features that make the Leland the best motor yet developed for electric refrigeration. Available in various fractional sizes.
The Leland Electric Co
Dayton Ohio, U. S. A.

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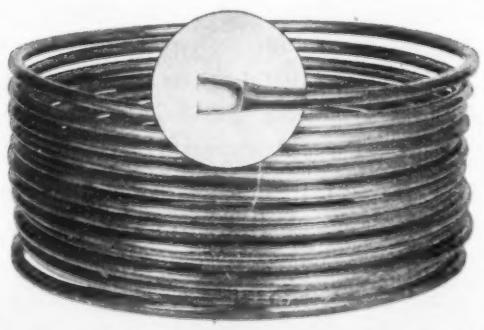
WOLVERINE
SEAMLESS
COPPER
TUBING

Highest quality seamless copper tubing—perfectly dehydrated and solder-sealed—made to A. S. T. M. Specifications (B-68-30-T)—ready for quick installation. Send your production requirements for quotations, or wire for rush shipment from stock.



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Cable Address: Robins, Detroit
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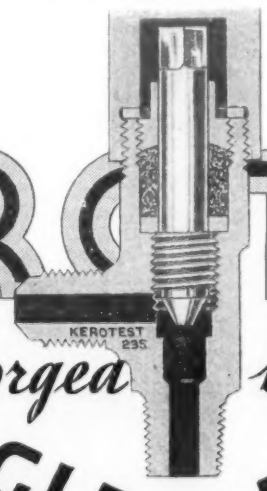
forged brass
ANGLE VALVES



KEROTEST Type 235 Angle Valve needs no introduction to refrigerator engineers. Its intensely practical design and remarkable simplicity has done more to reduce valve costs than all others combined.

This is one of the many Kerotest Valve types which have met with outstanding success in the mechanical refrigerating industry. Learn more about them in the Kerotest Catalogue—sent to you by request.

KEROTEST MANUFACTURING COMPANY
PITTSBURGH, PENNA.

TO SERVICE MEN AND SERVICE ORGANIZATIONS

PERSONNEL VITAL FACTOR IN SERVICE DEPARTMENT

Detroit, Mich. — Administrative problems are the most perplexing to the service departments, in the opinion of E. E. McEwan, Detroit service manager for Frigidaire. The mechanical problems of servicing refrigerators demand considerable time and attention, but it is the personnel problem that calls for the most careful study and thought.

The choice of their service men is of great importance, he points out, since it is these men who travel among the customers, making impressions on the public and working with practically no supervision from their employers.

In addition to having a pleasing personality, a service man must be alert and accurate in determining the solution of a service problem, he said.

The Frigidaire Corp. provides for installation experience and a regular training course for service men in their Dayton factory before a man is sent out as a service man.

The second administrative question for a service department is what to do with their service men in off-peak periods. Mr. McEwan feels.

During the summer, when the outside temperature is higher, the electric refrigerator's task is much greater, and consequently about four times as many service calls are received as in the winter months.

Discharging part of the service force in the winter time is hard on the men, and is questionable from the management's viewpoint because new men may have to be selected and given costly training for the next hot season, he believes.

Moreover, maintaining 24-hour service means keeping two men on duty all night for possibly one-hour's work, and is another off-peak difficulty with which service departments must contend.

SIMPLE REMEDY REMOVES FROSTING ON SUCTION LINE

Ozone Park, Long Island, N. Y.—A suction line of a commercial refrigerator installation which frosted on the off-cycle, or shortly after the machine had stopped, caused L. C. Kilduff, a refrigerator man here, considerable grief until he solved the difficulty by a method which he is still at loss to explain.

The installation was an ice cream hardening job, with two ice cream cabinets, each containing two coils, and operated by a compressor set between them. A 6-foot length of suction line ran from the compressor to one box, and about 18 inches to the other.

The equipment would run all right for a day or two, and then develop frosting of one of the suction lines, and subsequent flooding of the crankcase. One at the time the floats were changed, but to no avail.

Finally Mr. Kilduff noticed that the coils had all been tilted backwards when they were installed in the boxes. He removed the four floats and bent the arms so as to allow more liquid into the boilers, and lengthened the 18-inch suction line to about 10 feet, running it around the compressor. This removed the trouble, but Mr. Kilduff is still somewhat at a loss to know why.

His explanation is that the coils, being tilted backward, collected oil. Because the compressor was so near, when the oil pockets broke, the raw liquid was sucked down into the crankcase even though the compressor was on the off-cycle.

R. & H. CHEMICAL STAGES EMPLOYEES SAFETY SHOW

Niagara Falls, N. Y.—"Accidents in plants do not simply happen. They are generally the result of one of two causes: either unsafe conditions in the plant or a careless attitude of the employees," said L. M. White, assistant superintendent of the R. & H. Chemical Co., in addressing employees and their families at the Safety Show. The show, held in the specially chartered Capitol Theatre, a short time ago, was featured by a special safety program. Motion pictures were shown and awards made of silver cups and certificates to winning departments.

Comedies, news reels and other short pictures were interposed between the safety movies. Further emphasis on safety was given by Mr. Volkman, in charge of First Aid at the plant, who spoke briefly on the application of first aid in usual-run accidents. This was followed by a practical demonstration by Mr. Volkman, assistants and members of one of the R. & H. first aid teams.

Silver cups were presented to A. Lane, F. Mitchell, J. A. Wilson and J. Whitaker, on behalf of the excellent safety records of their respective departments. Each cup was suitably inscribed with a reminder of the fine records made during the past year. Safety certificates were awarded several departments, the following receiving in behalf of these:

F. Mitchell, M. O'Connor, E. Rushman, P. Pack, W. Lynch, A. Homewood, J. Whittaker, Mr. Macleod, C. Brooks, J. Stevenson, W. Russell, M. Beck.

The third night was featured by the presentation of 25-year service awards by Dr. H. R. Carveth. Dr. Carveth made a short address felicitating M. Murphy, S. A. Adams and Charles Pirie, and presenting them with handsome watches suitably inscribed as a token of esteem.

The entire theatre program was arranged and supervised by John Faill, chemist; L. F. Auman, labor superintendent, and Arthur Volkman.

SERVICE KEEPS STEP WITH MODERN TRANSPORTATION

Los Angeles, Calif. — Refrigeration Service, Inc., which handles service and maintenance on all types of electric refrigerators, has taken to the modern methods of transportation to handle distant service calls. One of the servicemen recently traveled by plane to service a job in Bakersfield, which is 125 miles from Los Angeles.

During the last two years they have made a number of trips to that territory. To go by automobile, which they have done, requires approximately ten hours' time and 250 miles of driving for the round trip. In addition to the time necessary to do the work, a charge is made for both mileage and traveling time so that the cost to the customer is very high. Recently air transportation was tried and the results indicate that air travel is really economical on very long trips.

The round-trip ticket by air about equalled the automobile mileage charge, and since the air trip required only an hour each way, the customer saved the cost of about eight hours' traveling, in addition to receiving much faster service.

LARGE STAFF EMPLOYED BY PITTSBURGH COMPANY

Pittsburgh, Pa.—About an average of 100 service calls a month on electric refrigerators are handled by the Quick Service Electric Co., which maintains its offices at 216 Stanwix St., here. Starting eight years ago, this company handled electrical service work in this territory, and with the increasing number of electric refrigeration installations, added this type of work to their list.

To take care of the office and service ends of the business the company employs fifteen men, seven of whom make up the service department. Three trucks are kept busy daily by the service crew answering calls for all types of electrical service. The average number of calls for service a month runs about 550. The policy of the company is to usually take care of the calls on the same day in which they are received, and not later than the following day.

In the shop all necessary equipment is set up for making tests of Servel machines in case that the job cannot be handled by the service man when he is called to the home.

CONDENSER MAY FUNCTION WRONG IN COLD PLACE

INVESTIGATION by service men of commercial condensing units and controllers which were not operating properly, often shows that either the condensing unit or the controller was located in a cold place, such as a cold basement or outdoors.

When a commercial condensing unit is located in a cold place, the refrigerant that is in the low side condenses in the high side and fills it up. This action takes place because the condensing unit, when not operating, is colder than the cooling unit and so draws the refrigerant out of the cooling unit and condenses it in the crankcase of the compressor. When the unit starts up, damage results from the liquid in the crankcase.

INDEPENDENT SERVICE CO. STARTED IN COVINGTON

Covington, Ky.—Operating here as an independent service company is the Electric Refrigeration Service Company, which has its headquarters at 416 Philadelphia St., and maintains its repair shop at 3200 Wold Ave., Cincinnati.

John F. Grady and J. E. Taphorn are associated in the business, and during the peak season they employ three servicemen who handle about two hundred calls a month. Service work on Servel machines is handled by this company.

The Final Touch

Testing Line at New York Kelvinator Branch

NEW KELVINATOR BRANCH HAS LARGE TEST ROOM

New York, N. Y.—Service facilities in the new quarters occupied by the New York Kelvinator Branch at 23rd St. and 30th Ave., Long Island City, provide for the testing of a large number of refrigerators. Every machine before it is taken out of the warehouse for installation is placed on the test line pictured here and necessary adjustments for correct operation are made by a trained staff of service men.

Removal to the new building was recently made by the branch, which now houses all of its activities under one roof. Executive and administration offices and quarters for the sales and service departments are spacious and will allow for expansion of the business.

Shipments of equipment from the factory are handled from a railroad siding from which about twenty-five carloads of freight can be unloaded daily. The siding is convenient to the warehouse, making it possible to handle shipments without loss of time.

H. M. WILLIAMS DISCUSSES EARLY REFRIGERANTS

Dayton, Ohio — Early refrigerants were contrasted with newly developed substitutes in a talk made before the Dayton Chemists' Association, recently, by Harry M. Williams, manager of the research and future demands division of the Frigidaire Corporation.

The meeting was held in the Dayton Engineers' Club, and was attended by a large group of Dayton industrial engineers.

TRADE MARK
MUELLER STREAMLINE
REG. U. S. PAT. OFF.
VALVES AND FITTINGS
for Electric Refrigeration

STREAMLINE Coupling, copper to copper
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

STREAMLINE Elbow, copper to outside pipe thread
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

STREAMLINE Tee, copper to copper to copper
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

STREAMLINE Coupling, copper to inside thread
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

Sealed Connections Without Nuts or Flares!

The new Mueller STREAMLINE Refrigerator Fitting is a permanently tight connection for Electric Refrigeration work—a fitting actually STRONGER THAN THE TUBING WHICH IT CONNECTS—yet much lighter, simpler, more quickly completed and more economical than any previous type of refrigerator fitting.

The new STREAMLINE Fitting is refrigerant, seepage and vibration proof. It represents a remarkable saving of time and labor, as well as giving absolute assurance that every connection is both perfect and permanent. No flaring is necessary, and there is no waste "endage." The fitting itself is lighter, meaning a considerable saving in weight. Inside diameter of the fitting is the same as that of the tubing—there are no uneven surfaces or obstructions. MATERIAL AND INSTALLATION COSTS ARE CUT APPROXIMATELY IN HALF.

Mueller STREAMLINE Refrigerator Fittings, with the exception of the couplings, are FORGED. The coupling is made of extruded seamless copper tube. Forgings being made in dies under tremendous pressure, have a dense, close-grained structure that makes seepage through the fitting itself, impossible.

Mueller STREAMLINE Electric Refrigeration Valves and Fittings can be made to suit your special requirements.

STREAMLINE Return Bend
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

STREAMLINE Cross
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

STREAMLINE Valve Spud
Patent 1,770,852
Patent 1,776,502
Other Patents Pending

MUELLER BRASS CO.
PORT HURON, MICH.
THREE GENERATIONS OF BRASS MAKING

Brighten up your dull! months

Are you looking for something to add to your line—a home specialty which will bring in money when refrigerator sales are at the low point—a device in no way competitive with refrigerators yet similar in selling method, market, installation? Then write for our liberal distributor proposition on Thermo-King, an admirably simple, efficient, time-tested thermostatic control for hand-fired and automatic home-heating with coal. Other refrigerator distributors have filled out the valleys in their yearly sales curves with Thermo-King. You can, too.

Write today for information

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for Domestic and Commercial Electrical Refrigeration

Testing and experimental laboratory service for Manufacturer, Distributor, Central Station. Test data exclusive property of client.

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Patent and Trade-Mark Lawyers
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Specialized FORGINGS
for every Electrical REFRIGERATION NEED
DETROIT FORGING Company
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Members of Detroit Business Pioneers

NEW ADJUSTABLE RANCO CONTROL

Provides an Ideal Temperature Range on Household Refrigerator

The Ranco Control for 1930 has many refinements and basic improvements which make it more than ever the ideal control for the modern household refrigerator.

WRITE FOR INFORMATION

The Automatic Reclosing Circuit Breaker Co.
COLUMBUS, OHIO U. S. A.

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Searches, Reports, Opinions by a Specialist in REFRIGERATION
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Solicitor of Patents - Refrigeration Engineer
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The leading refrigerator manufacturers are using our Double Seal and special gaskets made for their requirements. We will be glad to figure on your problem.

Specialists in refrigeration gaskets.

The D.W. Bosley Company
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Chicago, Ill.

BOSLEY'S Since 1869 The VERY BEST QUALITY SERVICE WEATHER STRIP

LATEST REFRIGERATION PATENTS

ISSUED DECEMBER 30

1,786,836—REFRIGERATING APPARATUS. Patterson Farmer, Detroit, Mich. Filed Nov. 18, 1927. Serial No. 234,071. 2 Claims. (Cl. 62—116.)

1,786,842—REFRIGERATING COMPOSITION. Oscar Hannach, Wilmersdorf, near Berlin, Germany, assignor to Wilhelm Kash, Wilmersdorf, near Berlin, Germany. Filed June 2, 1926, Serial No. 113,324, and in Germany Nov. 21, 1925. 4 Claims. (Cl. 252—5.)

1,786,861 — COMBINATION REFRIGERATING AND WATER-HEATING UNIT. Ernest B. Miller and William H. Gabeler, Baltimore, Md. Filed Dec. 14, 1927. Serial No. 240,052. 24 Claims. (Cl. 62—118.)

1,786,898—ART OF LIQUEFACTION. William L. De Baufre, Lincoln, Nebr., and John W. Davis, Washington, D. C. Filed Dec. 29, 1923. Serial No. 683,274. 5 Claims. (Cl. 62—122.)

1,787,209 — REFRIGERATOR CONTROL. Glenn Muffly, Detroit, Mich., assignor to Copeland Products, Inc., a Corporation of Michigan. Filed Sept. 30, 1928. Serial No. 307,107. 5 Claims. (Cl. 62—4.)

1,787,231—SANITATION OF REFRIGERATORS. Gilbert C. Bacon, Tamaqua, Pa., assignor to Darco Corporation, Wilmington, Del., a Corporation of Delaware. Filed Oct. 25, 1926. Serial No. 144,152. 4 Claims. (Cl. 183—4.)

1,787,379 — REFRIGERATOR CABINET. Robert Winter Hull, Connersville, Ind., assignor to Rex Manufacturing Company, Connersville, Ind., a Corporation of Indiana. Filed May 5, 1927. Serial No. 189,087. 1 Claim. (Cl. 220—9.)

ISSUED JANUARY 6

1,787,452—PISTON. Glenn Muffly, Detroit, Mich., assignor to Copeland Products, Inc., a Corporation of Michigan. Filed Sept. 20, 1928. Serial No. 307,106. 4 Claims (Cl. 230—221.)

1. The combination of a piston having a valve duct in its head and an integral valve seat in said duct, a valve in said duct and means to retain said valve in said duct comprising a flat plate completely covering the head of said piston and secured thereto.

1,787,474 — REFRIGERATING PROCESS AND APPARATUS. Ransom W. Davenport, Detroit, Mich., assignor to Chicago Pneumatic Tool Company, New York, N. Y., a Corporation of New Jersey. Filed May 7, 1927. Serial No. 189,471. 12 Claims. (Cl. 62—116.)

1. The combination with a chamber for perishable articles, of means for extracting heat from said chamber comprising an evaporator adjacent a vertical wall thereof, and movable means for disposing containers for liquid to be frozen adjacent the exposed face of said evaporator to effect absorption of heat directly from the liquid and indirectly from the chamber through the liquid and the containers therefor.

1,787,584—HOUSEHOLD REFRIGERATOR. Ivar Lundgaard, West Hartford, Conn., assignor, by mesne assignments, to Devon Manufacturing Company, Boston, Mass., a Corporation of Massachusetts. Filed Apr. 19, 1926. Serial No. 102,983. 2 Claims. (Cl. 62—116.)

1. A refrigerator comprising a food compartment, a cooling element located adjoining the lower part of the food compartment, said cooling element being provided with at least one compartment for freezing ice, a thermostatically controlled refrigerating machine for keeping the cooling element at a predetermined temperature, a fan for circulating air over the cooling element and into the food compartment, said fan being connected to the refrigerating machine and operable synchronously therewith whereby heat is rapidly conducted from the food compartment to the cooling element while the machine is operating, and whereby melting of ice in said element is avoided when the machine is idle.

1,787,609 — REFRIGERATING APPARATUS. Eugene L. Barnes, Buffalo, N. Y. Filed Nov. 25, 1927. Serial No. 235,466. 2 Claims. (Cl. 62—95.)

2. A refrigerating apparatus of the character described comprising marginally flanged end sheets with flanged openings therein, refrigerant and cooling chambers extending through said openings, and a wrapper secured to the marginal flanges of said end sheets cooperating with them to form a brine tank around said chambers.

1,787,681 — REFRIGERATING APPARATUS. William J. Hendron, Lombard, Ill., assignor to Booth Fisheries Company, Chicago, Ill., a Corporation of Delaware. Filed Nov. 6, 1929. Serial No. 405,085. 18 Claims. (Cl. 62—114.)

1. Apparatus of the class described comprising a refrigerating room having means of refrigeration therein; an overhead track leading into and out of said room; a carrier suspended from and traveling on said track; a plurality of supporting shelves on said carrier; and shiftable covers for said shelves.

1,787,837 — COMBINED REFRIGERATOR AND ICE CREAM FREEZER. Lucile Borden Powers, Knoxville, Tenn. Filed July 9, 1929. Serial No. 376,969. 2 Claims. (Cl. 62—114.)

1. In combination with a domestic refrigerator having a front door and an open front ice tray receiving chamber surrounded by refrigerating coils, a frame removably fitted in the lower portion of said chamber, an ice cream freezer including a horizontal cylinder mounted in and carried by said frame for preventing the freezer from contacting with the chamber walls, and a stirrer mounted in said cylinder and provided with an operating shaft having a projecting front end adapted to be engaged by an operating crank when the front door of the refrigerator is opened.

1,787,974—COMPRESSOR PUMP. Harry W. Dyer, New York, N. Y. Original application filed Mar. 24, 1928. Serial No. 264,488. Divided and this application filed Oct. 16, 1929. Serial No. 400,102. 6 Claims. (Cl. 230—222.)

1,788,012—REFRIGERATOR CAR. Loyd E. Cartmill, San Francisco, Calif. Filed Sept. 10, 1928. Serial No. 305,010. 13 Claims. (Cl. 105—423.)

1,788,114—ABSORPTION REFRIGERATING APPARATUS. Frans Georg Liljenroth, Stockholm, Sweden. Filed June 13, 1927, Serial No. 198,591, and in Sweden June 12, 1926. 2 Claims. (Cl. 62—119.)

1. A combined absorption and compression refrigerating machine, in which the absorption part comprises a generator, a condenser, an evaporator and an absorber, and the compression part comprises a compressor machine, said evaporator and said condenser, the compressor machine being inserted between said generator and said condenser and operated by vapour from said generator, before said vapour is condensed.

1,788,226—WASTE VAPORIZER. William M. Baxter, Louisville, Ky., assignor to Eskimo Pie Corporation, Louisville, Ky., a Corporation of Delaware. Filed June 6, 1927. Serial No. 196,722. 2 Claims. (Cl. 62—115.)

1. The combination with a surface having a condensate film thereon, of means for collecting said condensate, means for effecting the vaporization of said condensate, said vaporizing means comprising a perforated screen over which said condensate trickles, and a fan in juxtaposition to said screen to direct a draft of air against said screen.

1,788,343 — REFRIGERATION. Frank Desnoyers Peltier and Clyde Howard Ploeger, Evansville, Ind., assignors, by mesne assignments, to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Dec. 3, 1926. Serial No. 152,339. 4 Claims. (Cl. 62—126.)

1. In a refrigerating apparatus, in combination, a float chamber having an inner liquid and vapor space and comprising a bounding section having a passageway through the same, both ends of said passageway terminating outside said space, a bore connecting said space with said passageway, a restriction in said passageway in line with said bore, a stem passing through said bore, a valve attached to said stem arranged to co-operate with said restriction to determine flow through said passageway and means within said space for moving said stem within said bore, said chamber comprising a single shell so that liquid therein is in direct heat transmitting relationship with the medium surrounding the shell and may be heated by the surrounding medium.

ISSUED JANUARY 13

1,788,392 — REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Apr. 30, 1924. Serial No. 710,129. 17 Claims. (Cl. 62—95.)

1. Refrigerating apparatus comprising, in combination, a storage compartment, a cooling compartment, a wall between the compartments, said wall having an opening to form an air passage between the compartments, and a conduit extending longitudinally through the opening to form a second air passage between the compartments.

1,788,393 — REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Jan. 21, 1925, Serial No. 3,789. Renewed Dec. 5, 1929. 15 Claims. (Cl. 62—5.)

1. A refrigerator, comprising a food compartment, a cooling compartment located above the food compartment, a wall separating said compartments, said wall having a plurality of passages interconnecting said compartments, one of said passages terminating at a higher point in the cooling compartment than the other, a substantially horizontally disposed evaporator within the cooling compartment and located entirely above the level of both passage openings, and means for directing air as it flows from the higher extending passage below the evaporator and toward said other passage.

1,788,398 — REFRIGERATING APPARATUS. Jesse G. King, Dayton, Ohio, assignor to Frigidaire Corporation, Dayton, Ohio, a Corporation of Delaware. Filed May 30, 1928. Serial No. 281,606. 10 Claims. (Cl. 62—95.)

1. An evaporator for a refrigerating system including a trap comprising a compressed refrigerant inlet, a valve for said inlet, a refrigerant feeder for a cooling unit connected to said inlet, a float chamber, an expanded refrigerant inlet in said float chamber for receiving refrigerant from said cooling unit, a float mounted on an arm to swing about a pivot, said float being located in said float chamber, an operating connection passing through a wall of said float chamber between said arm and said valve, a flexible seal connected to said wall and said arm whereby differences in pressures on said seal act radically to said pivot along said arm, and a refrigerant outlet in said float chamber.

1,788,414—REFRIGERATING APPARATUS. Francis E. Stevenson, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Nov. 3, 1926. Serial No. 145,992 1 Claim. (Cl. 286—11.)

In a refrigerating system, a compressor, a sealing device therefor comprising in combination a casing having a bearing, a shaft journalled in said bearing, a chamber provided about the shaft adjacent said bearing, a sealing device surrounding said shaft and disposed in said chamber, said device comprising oppositely disposed and annularly contractible corrugated metal members having tapered portions, the outer ends of which are adapted to fit snugly about the shaft, the intermediate portions of said members being secured to the casing so as to divide said chamber into two compartments, one of said compartments communicating with the atmosphere and the other with the interior of said casing, and a compound within said metal members adapted to seal the compartment communicating with the compressor from the atmosphere.

1,788,503—APPARATUS FOR AGITATING WATER WHILE FREEZING ICE. Maxwell T. Zeigler, Huntington Park, Calif. Filed Nov. 7, 1928. Serial No. 317,779. 2 Claims. (Cl. 62—159.)

1,788,506—COOLING. Robert S. Blair, Stamford, Conn. Filed May 14, 1924. Serial No. 713,184. 19 Claims. (Cl. 62—156.)

1. In apparatus of the class described, in combination, means forming a chamber to be cooled, means forming a pair of passages in substantially continuous heat-conductive relation one to the other, said passages leading respectively toward and away from said chamber and surrounding said chamber and being connected one with the other adjacent said chamber, heat-insulating means about said conduits whereby the heat-absorbtive capacity of the outgoing air is restricted to absorption from the incoming air, and a vaporizable cooling agent accessible to air flowing inwardly through one of said passages adapted to be evaporated thereby and cool said air.

1,788,599 — REFRIGERATING UNIT. George T. Smiley and Walter R. Ohse, Houston, Tex. Filed Oct. 22, 1928. Serial No. 314,179. 4 Claims. (Cl. 62—95.)

1. A refrigerating unit comprising a hollow inverted U-shaped element having intake and discharge ports and a plurality of vertically spaced refrigerant conduits communicating at their opposite ends with the respective legs of the inverted U-shaped elements.

1,788,678 — CONTROLLING DEVICE. George A. Knaak, Milwaukee, Wis., assignor, by mesne assignmnets, to Penn Electric Switch Co., Des Moines, Iowa, a Corporation of Iowa. Filed Sept. 2, 1924. Serial No. 735,529. 2 Claims. (Cl. 201—51.)

1,788,813—APPARATUS FOR BOILING LIQUIDS. Edmund Altenkirch, Alt-Landsberg-Sud, Germany, assignor to Siemens-Schuckertwerke Gesellschaft mit beschrankter Haftung, Siemensstadt, near Berlin, Germany, a Corporation of Germany. Filed June 1, 1925, Serial No. 34,051, and in Germany June 3, 1924. 15 Claims. (Cl. 62—119.5)

1,788,942 — REFRIGERATING - CONTROL MECHANISM. Bluford W. Brockett and Elbert L. Hyde, Cleveland Heights, Ohio, assignors to Edmund E. Allyne, Cleveland, Ohio. Filed Aug. 31, 1927. Serial No. 216,651. 13 Claims. (Cl. 62—5.)

1. The combination with refrigerating apparatus including an evaporator, of control means for normally maintaining normal refrigeration, and additional emergency controlling means requiring operator restoration, inoperative during normal operation and sensitive to conditions at the evaporator, and operative upon failure of normal refrigeration to shut down the apparatus.

1,788,948—TRAP FOR REFRIGERATING APPARATUS. Edward Gruber, Cleveland, Ohio, assignor to Edmund E. Allyne, Cleveland, Ohio. Filed June 30, 1928. Serial No. 289,551. 8 Claims. (Cl. 62-118.)

1. Absorption refrigerating apparatus of the intermittent cyclic type comprising a boiler, a condenser, an evaporator, a liquid trap at substantially the liquid level in the boiler, a boiler pipe connection leading from the top of the boiler to a point below the surface of the liquid in the trap, a condenser pipe leading from a point above the surface of the liquid in the trap to the condenser, an evaporator pipe leading from the condenser to the evaporator, a gas return pipe leading from a point above the liquid in the trap to the bottom of the boiler, and means in said trap above the liquid level therein for receiving and baffling the gas as it enters the trap from the condenser through the condenser pipe.

1,789,021—COOLING APPARATUS FOR PULVERULENT OR GRANULAR MATERIAL. Lionel Douglas Parker, Barrow-in-Furness, England, assignor to Vickers-Armstrongs, Limited, London, England, a Company of Great Britain. Filed Sept. 12, 1929, Serial No. 392,205, and in Great Britain Oct. 3, 1928. 8 Claims. (Cl. 257—94.)

1,789,066 — REFRIGERATOR. Lee S. Chadwick, Shaker Heights, and Clarence T. Sorensen, Lakewood, Ohio, assignors to Perfection Stove Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 19, 1928. Serial No. 293,829. 15 Claims. (Cl. 20—35.)

15. In a refrigerator, the combination of a cabinet including a door frame having an angular recess therein, a gasket disposed about said door frame and comprising a bead and an attaching flap which projects into said recess, an angular clamping strip disposed within said recess and bearing against said attaching flap through substantially its full length, means for causing a wedging action between said clamping strip and flap whereby to place said bead and flap under tension and to effectively secure the gasket in place and to allow for some degree of contraction and expansion of the contiguous parts without impairing the clamping action, said gasket comprising a relatively soft multi-strand cord about which is secured an envelope of fabric which is stitched adjacent the cord so as to provide an attaching flap, said refrigerator having a metal covering and a liner, said gasket being spaced from the liner and arranged so as to insulate the metallic covering from the inside of the cabinet.

1,789,067—REFRIGERATION APPARATUS. Lee S. Chadwick, Shaker Heights Village, Marc Resek, Cleveland Heights, and Wilbur G. Midnight, Cleveland, Ohio, assignors to Perfection Stove Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 26, 1929. Serial No. 388,406. 13 laims. (Cl. 62—118.)

7. A cooling unit for refrigeration apparatus of the intermittent absorption class comprising a receiver, a condenser, an evaporator, and conduits through which communication is established between the receiver, condenser and evaporator, the parts being so arranged that the refrigerant condensate is capable of a thermo-siphon circulation through the evaporator and condenser.

1,789,126 — PEG. Gedor W. Aldeen, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a Corporation of Delaware. Filed May 7, 1927. Serial No. 189,528. 2 Claims. (Cl. 248—18.)

1 The combination with a refrigerator wall having an enameled surface, of a shelf peg having a shank extending through an opening in the wall and provided with a head engaging one face of the wall, a nut threaded upon the shank, and a sealing device located between the nut and the enameled surface of the wall and provided with centrally located means to engage the nut and space it from the enamel surface, said sealing device also provided with peripheral means engaging the enamel surface remote from the edge of the opening to seal the opening and prevent cracking of the enamel around the edges of the opening.

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How the Bonus System of Paying Refrigeration Salesmen Works

THE interesting method of paying refrigeration salesmen printed below was prepared by S. O. Lindeman of Greensboro, N. C., who is well known in this field, having distributed refrigeration equipment for a number of years.

Mr. Lindeman is conducting his advertising and sales promotion business under the name of Lindeman Service. This question of paying salesmen was taken up in one of the regular bulletins issued to clients by the Greensboro Service.

Mr. Lindeman, although his service consists of preparing advertising and sales plans for various industries, is devoting special attention to the refrigeration industry.

The following plan for the introduction of a unique bonus system in connection with the retail selling of electric refrigeration is the outgrowth of a desire to accomplish two definite aims.

Experience has proven that salesmen who have been identified with a dealer or distributor for some few years feel that it is unfair to them that new men coming into the organization are placed on an equal footing with the older men.

"I came into this business," says the old salesman, "when it was just getting a start. I helped make electric refrigeration popular. I did my share toward establishing the reputation of our product. Today, if I make a sale I get a certain commission, and if my sales go over a definite sum I get a bonus. But, a new man coming into the organization gets exactly the same thing. If he sells as much as I do he gets as much as I do. No consideration is given to the fact that the work I have done, and which the other older men have done, has made it a lot easier for the new man to make sales. I have proven my loyalty to the company by sticking to my job in dull seasons as well as in the busy seasons. The new man's loyalty hasn't been tested. He may be here only until he can make a few easy sales—pick off some of those I worked on, probably. But he gets paid on exactly the same basis as I do."

The first aim of the proposed new system of bonuses is to do away with such thoughts on the part of salesmen who have been with dealers or distributors for a year or more.

The second aim is to furnish an incentive to men to stay in the organization for a number of years; thus cutting down on the losses which dealers and distributors have sustained on "floaters," and also reducing to a considerable extent the cost of training men.

The two definite aims of this plan are to induce men to hold their jobs, and then to compensate them in a way that will be satisfactory and attractive to them.

The chart is figured on the basis of the presumed sales made by an individual salesman during the year 1930, and an estimate of his sales for 1931, 1932 and 1933.

It is not necessary that the plan be started at the beginning of any year, as schedules can be arranged from any month and extend to that same month in the succeeding years.

Thus, if a salesman starts with the organization on the first of October, 1930, his schedule would be made out at the close of business in September, 1931, and his bonuses would be figured with that schedule as the basis.

The schedule below shows that the salesman sold $1,220.00 worth of products during January, 1930; $1,964.00 in February of that year, $1,832.00 in March, etc., etc.

Under the proposed bonus plan this salesman will be entitled to a bonus of $12.20 in January, 1931, provided his sales for the month are at least equal to those of January, 1930.

Bonus Works Both Ways

Should he fail to sell $1,220.00 in January, 1931, he will not be deprived of his entire bonus, but will receive as much as his sales warrant. As an example, if he sells $900.00 in January, 1931, his bonus will be but $9.00, and he will not receive the remaining $3.20 until his sales equal those of the preceding year.

As is shown on the chart, this salesman sells more in January, 1931, than is required to earn the bonus, but in February he sells $214.00 less than required. After deducting from this shortage the amount over in January, we find him still short $74.00, and for that reason he receives only $18.90 in February, instead of $19.64.

The chart shows, however, that he makes up this deficiency the following month, and thereafter receives his full bonus each month because he keeps ahead of the required amount in sales.

From the foregoing it will be seen that we are paying this salesman a 1% bonus on the business secured by him in the previous year.

Now, in 1932 he is to get another 1% bonus on the 1930 business, and in addition he is to get 1% on his 1931 business, provided he meets the requirement, which is to sell at least as much as he sold the preceding year. In 1933 he gets a third 1% on the 1930 business, and also 1% on his 1931 and 1932 business.

In 1934 the record of 1930 is dropped and no further bonus is paid on 1930 business.

The net result of this plan is to pay a 3% bonus to salesmen who remain in the organization for at least three years. No bonus is paid to any man not in the business at least one year.

Insurance Companies Pay Renewals

This bonus plan is a new adaptation of a very old principle: The plan is in effect with all life insurance companies, where the bonus is referred to as "renewals." As a rule the insurance companies pay about 5% on so-called "renewals" and they pay this amount over a period of from six to nine years. In most companies an insurance agent does not participate in the renewals if he leaves the organization within three years. That is one reason why insurance men seldom change their jobs. They start with one company, and the value of their renewals keeps them with that company for at least three years. By that time they are usually "wedded" to the concern they represent.

It may be contended that electric refrigeration dealers and distributors cannot afford to adopt this bonus system, and to pay this total of 3% in addition to the commissions already being paid.

We do not believe such an objection is sound. It is reasonably certain that all men now on the sales force will not earn these bonuses, but should that happen to be the case, it is apparent that much training expense would be saved, and less supervision needed, and by keeping trained men in the organization the savings will certainly offset the bonuses, to say nothing of the additional business that will surely result from having such a trained force in the field.

However, this is a matter that will have to be decided by the individual dealer and distributor, and the suggestion is made that if it is not found feasible to offer this bonus as an "addition" to present commissions, then the present salesmen be given their choice of working under the present plan or under the new bonus system, and the new men hired from time to time be started on a commission basis that will carry with it this bonus feature.

Giving a Bonus to Dealers

In so-called metropolitan territories the distributors have been faced with losses due to tremendous turnover in their retail selling force, and it is believed that distributors operating in other territories have had a like experience so far as their "headquarters town" was concerned.

From all information we have been able to gather, it has seemed well-nigh impossible to keep any great number of salesmen in this business for any great length of time.

The turnover in the dealer organization has not been anything like as large as that in the retail selling end, but it has still been greater than it should have been.

It is believed that this same bonus system can be applied to dealers, and that the distributor will find it possible to give to the dealers an extra 3% in instalments of 1% each.

Looking at the chart, it will be seen that the bonus of a man (dealer or salesman) who averages something over $25,000.00 a year, will amount to something in excess of $1,600.00 over a three-year period.

Taking the third year alone, we see that the bonus equals $840.65. A dealer who gives up his contract at the end of the second year would be losing $800.00 by doing so. That, in itself, should be ample incentive for him to go ahead, and we feel that distributors can use this point to very good advantage in discussing future contracts with dealers.

Month	1930	1931	Plus or Minus	Bonus	1932	Plus or Minus	Bonus	1933	Plus or Minus	Bonus
Jan.	$ 1,220.00	$ 1,360.00	+ 140.00	$ 12.20	$ 1,420.00	+ 60.00	$ 25.80	$ 1,500.00	+ 80.00	$ 40.00
			— 214.00			+100.00			+ 150.00	
Feb.	1,964.00	1,750.00	— 74.00	18.90	1,850.00	+160.00	37.14	2,000.00	+ 230.00	55.64
			+ 198.00			+170.00			— 200.00	
Mar.	1,832.00	2,030.00	+ 124.00	19.06	2,200.00	+330.00	38.62	2,000.00	+ 30.00	60.62
			+ 54.00			+200.00			+ 200.00	
Apr.	2,646.00	2,700.00	+ 178.00	26.46	2,900.00	+530.00	53.46	3,100.00	+ 230.00	82.46
			+ 191.00			—100.00			— 150.00	
May	3,209.00	3,400.00	+ 369.00	32.09	3,300.00	+430.00	64.09	3,150.00	+ 80.00	97.09
			— 117.00			+200.00			+ 400.00	
June	3,117.00	3,000.00	+ 252.00	31.17	3,200.00	+630.00	61.17	3,600.00	+ 480.00	93.17
			+ 394.00			—300.00			+ 200.00	
July	2,806.00	3,200.00	+ 646.00	28.06	2,900.00	+330.00	60.06	3,100.00	+ 680.00	89.06
			+ 299.00			+150.00			— 50.00	
Aug.	2,401.00	2,700.00	+ 945.00	24.01	2,850.00	+480.00	51.01	2,800.00	+ 630.00	79.51
			— 100.00			— 5.00			— 50.00	
			+ 845.00	30.05	2,900.00	+475.00	59.01	2,850.00	+ 580.00	88.10
			+ 200.00			+100.00			+ 350.00	
Oct.	1,800.00	2,000.00	+1,045.00	18.00	2,100.00	+575.00	38.00	2,450.00	+ 930.00	59.00
			+ 50.00			+200.00			+ 300.00	
Nov.	1,150.00	1,200.00	+1,095.00	11.50	1,400.00	+775.00	23.50	1,700.00	+1,230.00	37.50
			+ 150.00						+ 100.00	
Dec.	1,850.00	2,000.00	+1,245.00	18.50	2,000.00	+775.00	38.50	2,100.00	+1,330.00	58.50
Total	$27,000.00	$28,245.00	+1,245.00	$270.00	$29,020.00	+775.00	$550.45	$30,350.00	+1,330.00	$840.65

DYER DIRECTING SALES FOR HELD COMPANY

Upper Darby, Pa.—Arthur J. Dyer has joined A. L. Held, Inc., Westinghouse refrigerator distributors for Delaware County, as sales manager in full charge of refrigeration.

Mr. Held is widely known throughout the industry, having been with Frigidaire in Detroit and Philadelphia. Prior to joining the Held Company he was cooperative sales manager of the Hajoca Corp., former Electrolux refrigerator distributors in the Philadelphia territory. While with this company he won the metropolitan championship of the Electrolux organization for 1930 in national competition, with a record of 43 personal sales in May and 27 during June.

PARKER HAS EASTERN SALES OFFICE

San Bernardino, Calif.—Parker Ice Machine Co. anounces that its line of compressors is carried in stock by H. L. Fowler, sales representative, who has his headquarters at 15 Moore St., New York City.

Arrangements have been completed with the California Edison Co. for handling Parker commercial refrigeration.

OVERSIZE ICE CUBES

New York, N. Y.—Oversize ice cubes are suggested through the use of Cubelites, illuminated glass units, in automatic refrigeration window displays. The large cubes for display purposes are produced by the Cubelite Division of the General Display Case Co., Inc., 57 Greene St., New York City.

Five sizes of cubes, ranging from four to twelve inches, finished in white glass upon which letters, trade-marks, company names, etc., can be inscribed are produced. Against the light background the dark inscription stands out well in the daytime, and at night the large block can be illuminated to bring out the contrast. In addition to presenting their message, the blocks, although a bit oversize, suggest ice cubes, one of the conveniences of mechanical refrigeration.

MAKES DEBUT IN FIELD

Detroit, Mich.—The first issue of the *Liquid Cooler News* has made its appearance in the refrigeration field. It will be published monthly for the field organization of the Liquid Cooler Corp.

ARMSTRONG BRINGS OUT TEMLOK INSULATION

Lancaster, Pa.—A new fibre insulation board known as Temlok is now being marketed by the Armstrong Cork & Insulation Company. At its Pensacola, Fla., factory, the new product is being manufactured from the golden heartwood fibres of Southern pine.

Temlok is available in half and inch thicknesses and can be built up into layers. It can be cut to size to fit requirements.

CAMPAIGN ADDS 150 NEW SERVEL OWNERS

Evansville, Ind.—A special sales campaign of four weeks, just completed by the Southern Indiana Gas & Electric Company, Servel distributor, resulted in the sales of 150 Model K Servel refrigerators, according to Edward McGinness, sales supervisor. The sales were confined to individual households.

KELVINATOR AD NEWS MAKES APPEARANCE

Detroit, Mich.—To acquaint dealers and distributors with its advertising program is the purpose of the Kelvinator *Advertising News* which made its debut in the field a short time ago. It is the official organ of the Kelvinator Advertising Department and will be published monthly.

The first issue devotes considerable space to national, local and trade paper advertising of the Kelvinator Corporation. Also, the three-year campaign on electric refrigerators initiated by the National Electric Light Association, in which $5,000,000 will be spent to promote sales, gets a prominent place on the front page.

PACIFIC COAST FRIGIDAIRE HEADQUARTERS MOVED

San Francisco, Calif.—Frigidaire Sales Corporation has established its Pacific Coast regional office at 55 New Montgomery Street, transferring this office from Oakland, where it has been located since its establishment on the west coast. Sales of electric refrigerators handled through Pacific Coast, Salt Lake City and Spokane District Offices will all be supervised from the San Francisco headquarters. J. L. Conover, who is Pacific Coast regional manager, will make his headquarters at the San Francisco office.

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STREAM CONTROL
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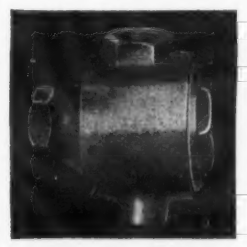

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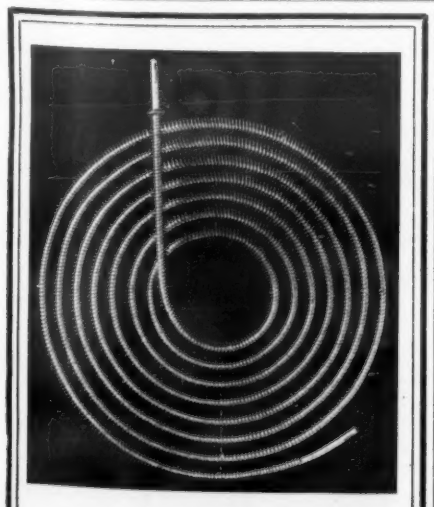

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BERGHOFF ANALYZES BUSINESS SITUATION

(*Concluded from Page 8, Column 3*)

and stock to our very door step in form of neighborhood stores. The mail order houses have always been keen on displaying both merchandise and price at the family fireside, and have even followed through to the back of the lot, never missing a single opportunity to invite an order. The farmer who has extended his display and sales effort to the roadside, to the city market, and in many cases to the home, has always found a ready outlet and a good price; and has succeeded in increasing the consumption of green goods, fowl, etc., to a great extent.

Every merchant will admit that his business was built up by the good will and personal patronage he enjoyed when his store was a local institution of note and a place where the proper display of merchandise, combined with his personal effort, were the decisive factors in creating a large sales volume. His customers came to satisfy some immediate want, lingered a while to discuss the topics of the day, and remained to buy the latest in whatnots designed to make work a little easier and life a little sweeter.

Organize Time

The automobile, with its swift transportation and parking problem, now prevents the lengthy visits, and it's up to every merchant who cannot afford the world's busiest corner locations to so organize his own time as well as that of clerks, salesmen or assistants so that each one spends a portion of the day calling on a picked list of customer's homes and returning the visits made years ago.

Every branch or type of business must stop its scattershot methods and determine for itself the definite source from which it has a right to expect its volume. The individual must be classified according to his buying power, and then every educational means must be used to acquaint him with the value side of what you have to offer. The demand is there, greater than ever, and the far-seeing organizations are directing all of their energies, advertising and personal sales effort to stimulate and satisfy this demand in each prospect's home.

Advertising Great Tool

Whether you use the daily, weekly, or monthly periodicals, radio, mail order catalogue or personal solicitation, your story and appeal must be complete, designed not only to create desire, but actual acceptance in close proximity of the family davenport. The great mass of value buyers will insist on knowing the price before allowing themselves to be sold. Advertising of any sort properly planned and well directed has its greatest value when augmented by personal effort; but it is always inadvisable to expect advertising to bring results before all of the field work has been properly done.

Advertising is the greatest tool to increase the results of personal effort, but cannot be expected to replace it. It is the rain and sunshine that helps ripen the crop. It can neither plant the seed nor harvest the grain. This remains for the organization and the individual to do.

GILMORE NAMED PRESIDENT OF CHICAGO SOCIETY

Chicago, Ill.—Rollo E. Gilmore was elected president of the Chicago Association of Consulting Engineers for the ensuing year on January 21, here. The other officers named at this meeting are: Harry L. Clute, vice-president, and Philip T. Trotter, secretary-treasurer. Ernest V. Lippe was the retiring president.

The association is composed of Chicago consulting engineers whose work is in the design of mechanical, electrical and sanitary equipment for the building industry. Its members are planning a banquet to be held February 17 in celebration of the tenth anniversary of the founding of the association.

Eastern Manager

FRANK T. WILLIAMS
Who is now Eastern Regional Manager for Copeland Products, Inc.

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other material recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Zeroviz

New methods of merchandising ice cream are the subject of a broadside prepared by the Grand Rapids Cabinet Co., Grand Rapids, Mich. Two refrigerator cases with facilities for displaying and storing of ice cream are fully described. Both of these models are constructed for low temperature work.

OREGON REFRIGERATION MANAGERS ARE OPTIMISTIC

Portland, Ore.—Optimism for business conditions here was expressed by G. A. Copp, assistant general manager of the Frigidaire Sales Corporation, and J. L. Conover, regional manager, San Francisco, who supervised the consolidation of the wholesale organizations of Seatle with Portland.

On January 1st, Frigidaire Sales Corporation here became a wholesale concern only, handling the entire retail distribution of Frigidaire through dealers. The same general policy will be put factory by H A. Brysselbout.

District sales manager for the northwest is R. E. Drake, and the wholesale business for the entire northwest country will be handled from Portland.

The General East Side Corporation at 1206 Sandy Boulevard, and General West Side Radio Corporation, 141 11th Street, will handle the retail sales of Frigidaire. In addition, Frigidaire will also continue to be sold by Portland General Electric Company and Meier & Frank Company's department store.

The Refrigeration Engineering Company, with showrooms at 350 Burnside Street, will handle the sale of Frigidaire equipment for commercial use.

PLACES INITIAL ORDER FOR 110 MODELS

Dubuque, Iowa.—The Midwest-Timmerman Co., Atwater-Kent radio distributors who maintain general offices here and branches at Davenport and Mason City, has taken on distributorship of Kelvinator products.

Representatives of the company headed by G. J. Timmerman and accompanied by H. A. Dahl, Kelvinator district manager, visited the Detroit factory a short time ago at which time an order of 110 Yukon models for immediate shipment was placed.

FRIGIDAIRE RECEIVES GOLD MEDAL IN SPAIN

Dayton, Ohio.—The gold medal award, highest refrigeration honor of the Ibero-American Exposition, which attracted visitors from all over the world to Seville, Spain, during the past year, has been awarded to Frigidaire Corporation, the export department of this General Motors subsidiary has been advised.

The Frigidaire electric refrigeration equipment that won first place in competition with refrigeration products of South America, Central America, the United States, Spain and Portugal, included household electric refrigerators, automatic water coolers, ice cream cabinets and mechanical equipment and cooling coils for commercial refrigeration purposes, it was announced.

The exhibit in which the Frigidaire products was arranged by L. R. Wood, Inc., Frigidaire foreign distributor, and was constructed of hand-carved mahogany. The background was red damask.

Spread out over 25,500,000 feet of floor space in buildings constructed on the famous Maria Luisa and Los Delicias parks of Seville, the exposition was housed in structures typical of the countries represented, and the exhibits depicted the progress and industrial and artistic achievements of the Latin and American people.

TIMKEN OIL BURNER SALES UP 56 PER CENT IN 1930

Detroit, Mich.—An increase of 56 per cent of the 1930 oil burner sales over 1929 sales has been reported by the Timken-Detroit company. The 13 factory branches showed an increase of 40 per cent, the balance representing sales to the 72 dealers appointed since Timken-Detroit inaugurated its first dealer program last February.

Although prices were reduced last summer, manufacturing and installation costs were reduced correspondingly, according to Haldeman Finnie, vice-president and general manager, so that the previous margin of profit was maintained. Together with the greatly increased volume, this resulted in a substantial increase of net profits over 1929.

It is the intention of the company, Mr. Finnie states, to return a considerable part of the 1930 profits into the business, by increasing advertising appropriations and expanding both branch and dealer operations in 1931.

GENTSCH & THOMPSON NEW G. E. DISTRIBUTOR

Boston, Mass.—Gentsch & Thompson, Inc., has superseded the Electric Refrigerator Company of New England as distributor for General Electric refrigerators in eastern Massachusetts and the state of Rhode Island.

Both Mr. Gentsch and Mr. Thompson were prominent men in the field of finance, the former having been with his own firm, Finley, Smith & Gentsch, at Cleveland, Ohio, members of the Cleveland Stock Exchange, and the latter having been a member of Otis & Company, members of the New York Stock Exchange. They have severed their former connections for their new work in the distribution of General Electric refrigerators.

WESTINGHOUSE APPOINTS NEW MANAGERS

T. I. Phillips, formerly superintendent of metal stamping at the AB Building, Nuttall Works of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has been appointed works manager. W. H. Himes, formerly in the mechanical engineering department at East Pittsburgh, has been promoted to manager of the engineering department, and L. R. Botsai, formerly industrial manager of the Central District, has been appointed gearing apparatus manager.

TRUPAR EXPORTS RISING

Dayton, Ohio—Overseas business of Trupar Manufacturing Company, manufacturers of Mayflower electric refrigerators, is showing a large increase, it was reported by sales officials of the company, January 24. Export business of the concern is handled by Melchoir, Armstrong, Dessau Company, 116 Broad Street, New York

Mayflower outlets have been established in Holland, England, France, and Germany, and orders are coming in from newly-organized distribution offices in South America, Australia and New Zealand.

DELEVAN JOINS PENN

Des Moines, Ia.—Nelson B. Delevan, formerly with the Gould Pump Co., Seneca Falls, N. Y., has recently been appointed sales manager of the Penn Electric Switch Co. of this city.

Western Manager

RALPH W. JONES
Copeland's new Regional Manager for the Western Division

REQUESTS FOR INFORMATION

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Air Conditioning

Query No. 408. "We are often asked by owners of refrigeration installations to offer them apparatus for the purification of air, and, therefore, we are interested in U. S. A. products as regards apparatus for the production of ozone."

PITTSBURGH MEN TAKEN THROUGH G. E. FACTORY

Schenectady, N. Y.—The mechanics of manufacturing electric refrigerators were explained in detail recently to seventy salesmen, dealers and members of the Ochiltree Electric Company of Pittsburgh, who made an inspection trip through the General Electric Company plant here. The Ochiltree company is distributor in western Pennsylvania for the General Electric refrigerator.

The delegation of visitors was headed by R. W. Evans, sales promotion manager of the Pittsburgh organization, and H. W. Ochiltree, who sponsored the trip as a reward for exceptional salesmanship during the past six months.

The visitors inspected buildings 8, 10, 24 and 26, where they witnessed the construction of the DR-2 unit and building 69, scene of cabinet assembly. Following a luncheon at noon in the works' restaurant, the research laboratory and WGY studio were visited. At the studio, Anthony M. Jones, refrigerator salesman and tenor, gave a short song recital that was broadcast to listeners on the air. A dinner was served in the evening and the next day the delegation went to Cleveland to visit headquarters of the General Electric refrigerator department.

At the banquet in Schenectady F. C. Sarchet, refrigeration engineer, was master of ceremonies. Among those present from the Schenectady organization were Chris Steenstrup, chief engineer; J. J. Walker, administration engineer; W. B. Hill, superintendent; D. F. Newman, design engineer; A. O. Way, superintendent cabinet factory.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

POSITIONS AVAILABLE

WANTED experienced refrigerating sales engineers to sell Frick Ammonia and CO_2 refrigerating machinery from one-half to thirty tons; also Servel commercial line in Pittsburgh district. Must be capable of making estimates, layouts, and specifications for dairies, ice cream plants, packing houses, markets, etc. In reply give experience, age, married or single. Good salary and commission to right man. Box No. 304.

SALESMEN Wanted—to sell a reliable line of articles—very attractive commission basis. Those who are acquainted with electrical stores, refrigerator dealers and electric and gas utility companies preferred. Only those with proven selling ability and good reference need apply. Territories in most sections available. Box No. X.

SERVICE man on Kelvinator domestic and commercial, with knowledge of radio. Write fully. Box 311.

POSITIONS WANTED

GRADUATE Mechanical Engineer, experienced in the development, production and servicing of domestic and commercial refrigerators, would like to get in touch with a company introducing a new unit, or commercial refrigeration specialty. Experienced also in industrial sales work. Box 307.

COMMERCIAL and domestic sales engineer available immediately, can budget, organize and direct sales and service profitably. Prefer distributor or dealer outlet. Your proposition must be good. Go anywhere. Experienced Servel, Kelvinator, Frigidaire and Electrolux. Will furnish proof that I can make you more net profit from the refrigerator business than you are getting. Box No. 305.

REFRIGERATION machine designer seeks new connection in broader field in the manufacture of units for refrigerated automobile truck or railroad car installation. Also experienced in gasoline engine and electric motor design incidental to such units. Capable of shouldering responsibility. Box No. 312.

WANTED Frigidaire Compressors and Coils. Household and Commercial in any condition. Save time, tell all about them in first letter, State lowest price wanted.
B. L. WILLIAMS
1004 Penna. Ave. N.W., Washington, D.C.

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Unit Bases and Guards
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5936 MILFORD AVE. DETROIT, MICH.

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Refrigerated Food Section

In Two Parts—Part 2

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KROGER ESTABLISHES FOOD FOUNDATION

DETROITER SELLS BOTH ICE CREAM, SMALL FREEZER

Entrepeneur Adopts Machine After Trying To Invent One Like It

By George F. Taubeneck
and
John T. Schaefer

Detroit, Mich.—Several years ago Sam Costomiris had an idea. All his life he had been engaged in the business of serving ice cream to a hungry American public, but never during his 30 years in the confectionery trade had he been able to evolve a formula for predicting the fickle public's demands for frozen delicacies at any particular moment.

That matter of matching his supply of ice cream with the daily fluctuations in demand for it had long been a source of irritation to Sam.

Some days he would order far too many gallons, and profits would go into ice to keep the left-over ice cream frozen until the morrow. Other days he would run out of material for sodas and sundaes and cones right in the middle of a "rush," and would lose valuable good will when perspiring customers had to be turned away.

Came then the idea.

"What I need," he said to himself, "is a miniature ice cream making plant here in my shop. It must be able to freeze ice cream as fast as I want it, and should be practically automatic, so that I can go ahead and wait on the trade while it makes ice cream for me."

Costomiris is mechanically inclined, and likes nothing better than an hour to himself among the tools in his workshop. Hence he had no hesitancy at all about attempting to invent a machine to satisfy his need.

For a long time he studied, and tinkered, and labored, and tested. None of the machines he devised would do the job to satisfy him. And then one day he saw an advertisement of a "Taylor Freezer." It seemed to be just what he was looking for, so he wrote for more information.

Upon receiving further details, he was convinced, and sent in an order. He still thinks he could have evolved a good machine eventually. But why bother, since one was already made for him? Today Sam Costomiris, in his "Arcadia" confectionery on Woodward Avenue, proudly displays his second ice cream making machine. He was

(Concluded on page 2, column 5)

Confectioner-Dealer Displays His Wares

Sam Costomiris, who has profitably combined soda dispensing with selling Taylor Freezers, likes to give free portions of the ice cream he makes to attractive customers. His Arcadia Confectionery, located on Detroit's famous Woodward avenue, features "Taylor-made" ice cream made right in the shop, served generously, and sold at prices below those of his competitors. Sam tried for many years to invent a similar machine.

MILLION DOLLAR FUND ANNOUNCED FOR FOOD STUDY

Laboratory Research Bureau Will Approve All Kroger's Brands

Cincinnati, Ohio—Half of the $2,000,000 recently appropriated by the Kroger Grocery & Baking Co. for an improvement program will be set aside for the establishment of a laboratory and research bureau to be known as the Kroger Food Foundation, according to an announcement just made by Albert H. Morrill, president of the Kroger Co.

This foundation, which eventually will work in connection with several leading universities in the United States, is dedicated to the study of foods and food values for American housewives and their families.

Working under the direction of an authority on food and hygiene—yet to be named—the foundation will attempt to do for the food industry what Good Housekeeping Institute has been accomplishing in the realm of appliances.

Scientists working in the laboratory at Cincinnati will analyze all types of foods, stamp their approval upon brands that meet their requirements, and set up certain standards which must be met by all products sold by Kroger stores, whether manufactured by the parent company or by other concerns.

In addition to the duties of testing foods and raising standards of foodstuffs sold to and consumed by the American public, an extensive service will be available to housewives.

A complete domestic science department, with experienced dieticians in charge, will be set up in the Foundation's laboratories. Problems will be solved involving the proper use of foods to meet various conditions of health and work, and menus will be worked out for all occasions.

Without encroaching on the field of physicians, the Foundation will develop and recommend the use of certain types of foods for those in sedentary work, for children, for the ailing, and for the undernourished. Anybody with a food problem can bring it to the Foundation for a solution.

Home economics advisers will be available for speeches before women's clubs.

(Concluded on page 2, column 1)

FOOD STORE OWNERS SLOW TO BUY IN 1930

Detroit, Mich.—Between three and four thousand Frigidaire commercial installations are now in operation in the city of Detroit, according to W. I. Buchanan, manager of the Detroit branch of the Frigidaire Sales Corp.

This number would have been considerably higher had the depression not come along, Mr. Buchanan believes.

Not only has the "buyer's strike" caused food merchants to think twice before investing and then decide to wait a while longer, but it has also been the chief factor in the closing up of many places of business in which commercial electric refrigeration had already been installed.

"It is still necessary to sell some merchants on the need for proper refrigeration," says Mr. Buchanan. "With most prospects, however, economy is the best argument. We have been able to show butchers, restaurant men, and grocers that one of the best ways to meet the present business situation is to reap the savings that invariably accompany the investment in electric refrigeration."

Restaurants and grocery stores located near factories were the hardest hit during 1930, according to Mr. Buchanan. According to his alert credit department, which places an O. K. or a

(Concluded on page 2, column 4)

DR. A. W. McCANN, FOOD AUTHORITY, DIES SUDDENLY

New York, N. Y.—Dr. Alfred W. McCann, well-known food expert and author of several books on the proper use of foods, died on January 19 in his town apartment here. His home is in Yonkers, N. Y.

His death came suddenly, a short time after he had returned from making his daily food lecture on the radio.

Dr. McCann was born in Pittsburgh, January 9, 1879. He was graduated from Duquesne University with the Bachelor's and Doctor's degrees. He is survived by his wife and five children.

He was the author of "Starving America," "This Famishing World," "God or Gorilla?" and "The Science of Keeping Young."

In This Issue

THIS issue of the Refrigerated Food Section of ELECTRIC REFRIGERATION NEWS portrays many new developments which should be of interest to the user, manufacturer, and seller of refrigerated food equipment.

On this page will be found a complete announcement of the new Kroger Food Foundation, and a feature story about a Detroit confectioner who is selling small commercial ice cream freezers as a side line.

A graphic picture page of the new equipment and developments in the refrigeration of foods can be found on page 3; an article urging revision of the cold storage laws with the view of aiding refrigerated food sales, page 4; a page for the housewife, page 5; and a page tracing the progress of quick-frozen foods, particularly in Europe, on page 6.

New Idea

Detroit, Mich. — There's a dandy market awaiting some manufacturer who can put out a line of small, electrically refrigerated cases for frozen strawberries, believes E. R. Davies, branch sales manager of the Kroger stores in Detroit.

Kroger grocery stores and bakeshops here have encountered considerable demand for frozen strawberries, and have been merchandising them profitably.

Some of the stores, however, are faced with the problem of securing adequate, dependable, economical refrigeration for this popular frozen food.

Unless the berries are kept constantly at very low temperatures, they turn into something very much like ordinary "preserved" strawberries, according to Mr. Davies.

Display is needed, as well as proper refrigeration, says the Kroger official. And the case should be small, to sit on top of a counter. Mr. Davies awaits manufacturers' developments of this idea with considerable interest.

MERCHANTS DEMAND LOW COST OPERATION

Detroit, Mich.—Most Detroit food merchants who buy commercial electric refrigerating apparatus from the Detroit Copeland Sales Co., respond to the economy appeal, rather than neatness or convenience, according to K. E. Tobin, Copeland commercial supervisor.

Only when Mr. Food Purveyor is shown and convinced that mechanical refrigeration will produce a ton of ice for him at a cost of $1.40, as opposed to buying ice at an approximate cost of $8.00 per ton, will he sign on the dotted line.

Restaurants, meat markets, grocery stores, dairies, bakeries, ice cream stores and confectioneries are all learning how to save money by more efficient refrigeration, claims Mr. Tobin. He believes that recognition of the uses of refrigeration is opening up a diversity of new commercial applications. And he and his cohorts believe in the present as well as the future, of commercial electric refrigeration so strongly and so effectively that Copeland's commercial sales in Detroit amounted to 35% of the total dollar volume in 1930.

Every commercial installation includes

(Concluded on page 2, column 3)

STATE SYSTEM OF FOOD MARKETS RECOMMENDED

Albany, N. Y.—A state-wide system of regional food markets to be operated by the state has been recommended by Governor Roosevelt's Agricultural Advisory Committee. The resolution adopted by this committee follows:

"Whereas, there is an acute need for the establishment of a comprehensive state-wide system of regional food markets to provide suitable outlets for the products of the farms of the state, and to decrease food costs to consumers:

"Be it resolved, that such markets should be state owned and state controlled, that there should be appropriated sufficient funds for the establishment of the first of such markets, and that the Department of Agriculture and Markets be authorized to select the site for such first market."

CLEVELAND FOOD SHOW DRAWS MANY EXHIBITS

Cleveland, Ohio—The Food Show, with exhibits of food products, kitchen and household equipment, will be held in the public auditorium the week of February 5 to February 13. The Food Show is sponsored annually by the Cleveland Retail Grocers' Association.

Cleveland refrigeration companies which have arranged for exhibits are: Smith & Oby Co., Electrolux; Carnegie Electric Co., Copeland; Cushman Refrigeration Co., General Electric; Kelvinator Sales Corporation; Danforth Refrigeration Co., Westinghouse; Starr Piano Co.; Majestic Distributing Corp., and the Apex Electrical Manufacturing Co.

SODA FOUNTAIN CONCERNS ANNOUNCE MERGER

Chicago, Ill.—Two manufacturers of soda fountain equipment, the Arnold Electric Co., of this city, and the Hamilton Beach Mfg. Co., of Racine, Wis., have effected a merger.

In connection with the transaction, the Gilchrist Co., of Newark, N. J., an associate corporation of the Beach Company, will be moved to Racine. F. B. Myers of the Beach organization heads up the new concern.

SWIFT TO MARKET CANNED FRUITS, VEGETABLES SOON

Chicago, Ill.—Addition of complete lines of canned fruits and vegetables will be made by Swift & Co., meat packers, in the near future. This is the first indication which any of the four large meat packers have given of a change brought about by the recent modification of the Packer's Consent Degree. Justice Jennings of the United States Supreme Court at Washington, D. C., in his decision allowed the packers to handle other lines of foods, such as groceries, but barred them from the retail field.

A statement issued on Monday, January 25 by G. F. Swift, president, said distribution of canned fruit and vegetables under the Swift brands would be made to retail dealers through existing Swift branch houses and over existing car routes by the present sales force.

HOTEL MART TO INCLUDE REFRIGERATION DISPLAY

New York, N. Y.—Electric refrigerating systems and all kinds of electrical equipment used in hotels, restaurants, hospitals, schools, and other institutions will be included in the exhibits in the Hotel and Institutional Mart, to be opened about May 1 in the Hotel Equipment Building, a new 42-story structure at Madison Ave. and 53rd St.

Inquiries concerning this project may be directed to Wendell Ekholm, Hotel and Institutional Mart, 399 Lexington Ave., New York.

KROGER STORES GIVE MILLION FOR STUDY, RESEARCH IN FOODS

(Concluded from Page 1, Column 5)

Every large city will have an associate —some prominent clubwoman who will, without compensation, act as a link between the Foundation and women's groups of the city. Associates will present problems brought up in club meetings to the Foundation, and will help disseminate information emanating from the Kroger experts.

A number of fellowships for graduate work in food study will be established by the Foundation.

"Because of the multitudes who rely on us for food, we feel that we are akin to, if not identical with, a public utility," says President Morrill. "We therefore want to set and maintain certain high standards for the products we merchandise. Since there is no public or quasi-public body that performs this work, we have established our own foundation, which will be available to the public and to manufacturers in the solution of their problems.

"Present food-control agencies, such as those authorized and maintained under provisions of the Federal Pure Food laws, are concerned only with keeping foods up to a minimum. Our idea is to raise and keep them up to a maximum."

The income from $1,000,000 annually will be used for upkeep of the Foundation. The initial appropriation is $60,000.

Store rehabilitation, additional warehouse construction, general repair of warehouses, building of a packing house, and rehabilitation and purchase of new machinery and equipment are among the other items included in the improvement program.

MILK COOLERS, SODA FOUNTAINS SOLD IN CANTON

Canton, Ohio—The Frigidaire Sales Corporation of Canton, formerly the Wm. F. Grey Company, reports a splendid recent business in all varieties of commercial refrigeration applications.

Manager Thorpe has equipped 18 grocery stores with Frigidaire units and two soda fountains in 60 days.

The manager of a high class cigar store, who had sold nothing but tobaccos, added a soda fountain to his store recently and installed Frigidaire equipment.

Milk cooling units to the City Dairy of Carrollton and the Ideal Dairy of Alliance were sold by the commercial manager this last month, as well as 8 separate units to the Pauline apartments.

Following in the wake of the building activity that the so-called depression has activated in Canton, Frigidaire units have been installed in many new residences.

One is the installation of both a kitchen and a butler's pantry unit on the estate near Canton, where the new Normandy chateau has been styled by leading house and garden magazines as the "most perfect French Norman chateau architecture in the United States."

A 30 cu. ft. unit was installed on another estate in a huge stone mansion in the exclusive Hulls and Dales section.

Private apartments on the 12th and 13th floors of the new Onesto Hotel were Frigidaire equipped by Manager Thorpe, who also sold a unit for the hotel kitchen and ice cream cabinets for the Onesto Coffee Shop.

The new Halle Bros. store building here was also equipped with a Frigidaire gravity water-cooling system not long ago.

Detroit Food Shop Proprietors Offer Problem To Salesmen

(Concluded from Page 1, Column 4)

two types of equipment, the refrigeration machine and the cabinets, or fixtures. Often, Mr. Tobin states, the buyer of commercial refrigeration consults with the fixture salesman and the machine salesman at the same time. Sometimes the fixture salesman handles the sale of both the machine and the fixtures, and occasionally the machine salesman markets both the machine and fixtures. This is most often done by personal arrangements between the salesmen, he indicated.

There is engineering to do on every job. Before each sale is completed, B. J. Hyatt, the sales engineer, checks the estimating sheet prepared by the salesmen. When the job is completed this same sheet is filed away for future reference.

Also the proposed layout of the fixtures in the store is studied with a view of securing the best operation of the equipment, neatness and sanitation to appeal to customers, the storekeeper's convenience, and in the last analysis, the most profitable operation of the business for the merchant.

The average restaurant enterpriser picks out a location, and then begins to think about equipment, drawing from someone else's ideas for equipment. The refrigerator salesman who is lucky enough to make the contact at this early stage of the installation can usually be of considerable service to his prospect, the Copeland men believe, by relying on his past experience to help the merchant with an effective layout.

Then when the time arrives to buy refrigeration equipment, he is in on the ground floor, and can sell with less competition.

Many retail stores are connected through family and subtle financial arrangements, and when one store of such a group is sold the salesmen find the rest can be approached with much less resistance.

Engineering Necessary

They find that they have to do just as much engineering on a repeat order, because refrigeration requirements vary a great deal with such factors as the brand of meats to be kept cool and the number of times a refrigerator door will be opened during the day.

Everybody in Detroit over 6 years of age thinks he is a mechanic, maintains Mr. Tobin, and as a result, the refrigerator salesman must usually explain the workings of his equipment in addition to telling the results it will give. This means that salesmen in the Detroit area must be very well trained. The Copeland organization finds that it takes six months to give a salesman adequate training for his task of teaching better food preservation to the butcher, the grocer, the baker, and the restaurateur.

Two Years In One Place

The average Detroit storekeeper stays only two years in one place, according to Mr. Tobin, who points out that this helps the sale of refrigeration equipment since merchants are constantly starting up new enterprises or remodelling old stands.

Mr. Tobin's experience indicates that the average retail merchant thinks he should buy refrigerating apparatus in the spring to prepare for the summer heat, while the fixture salesmen feel their business should be at a peak in the fall for the cold months when the fresh meat business is greatest.

One of the refrigerator salesman's jobs, he showed, is to educate people to the fact that refrigeration is necessary the whole year for the proper preservation of food.

Another need for education is among the old-school butchers who attempt to preserve meat by keeping their stores cold with natural ventilation in the winter time, he said.

"These people must learn that they are endangering their health with this practice, and their meats are not cared for properly. They should heat their stores and be healthy, and refrigerate their foods to keep them fresh," he concluded.

FRIGIDAIRE MEN ACTIVE IN COMMERCIAL FIELD

(Concluded from Page 1, Column 2)

N. G. upon a prospect before the dickering has progressed far, location has had a great deal to do with the success of food merchants in the past year.

If factories were idle, there were no customers for the shops which had been depending upon the trade of the workmen. Contrariwise, neighborhood stores have enjoyed increased business, because more people are in their territories throughout the day, and because families are staying home more and are not tempted to buy food elsewhere so much as formerly.

The Frigidaire Sales Corp is interested in selling commercial refrigerating machines only. Usually the installation is hooked up directly with the fixtures the grocery, the meat market, or the restaurant already has in use.

These fixtures are tested and inspected, of course, before the estimate is made and the installation goes into the store. In some cases the Detroit Frigidaire branch has refused to place a refrigerating machine in a shop because the case was not properly insulated, or for similar reasons.

Occasionally, too, the purchaser of refrigerating equipment decides to invest in new display equipment at the same time that he buys a machine.

Drug stores and confectioneries are left strictly alone by Detroit Frigidaire men. They have a working agreement with the Arctic Dairies and the Detroit Creamery, which two companies merchandise Frigidaire ice cream cabinets. Hence Detroit soda fountains must get Frigidaire equipment from these two outlets, rather than from the factory branch.

UNIVERSITY OF LOUISVILLE INSTALLS REFRIGERATOR

Louisville, Ky.—The Medical Department of the University of Louisville, has purchased a model 170 Westinghouse refrigerator, having a storage capacity of 17 cubic feet. This refrigerator is used to keep biological supplies and other preparations used in the medical training course in proper condition.

CONFECTIONER SELLS ICE CREAM MAKERS AS WELL AS SODAS

(Concluded from Page 1, Column 1)

so enthusiastic about the first one that he talked about it constantly—to his customers, to his friends, and to his competitors. One day one of the latter caught some of Sam's enthusiasm for the miniature ice cream plant, and offered to buy it. The competitor's offer was higher than the price Costomiris had paid for it, and naturally Sam accepted.

That gave him another idea. Why not sell these machines? He entered into negotiations with officials at Beloit, and soon became an accredited dealer. Combining his dealership with his soda fountain business, he invites prospects to come to his shop and see how the machine works. Practical demonstrations are remarkably convincing, he finds.

As a salesman, Costomiris is what baseball managers would call a "natural." He has been a successful merchandiser for 30 years. He understands the needs and requirements of the confectioner. He can talk the language of his prospects. Furthermore, he understands the machine he is selling, and knows how to get the most out of it, for he spent much time trying to build one on the same principle.

If the prospect wants figures, Costomiris gives them to him, and with authority, too. He keeps his accounts carefully, and maintains that he can demonstrate real dollar savings as well as efficiency savings that have accrued from the installation of his ice cream makers.

Passes Savings On

As proof of the fact that it costs less to merchandise ice cream by this method, he passes his savings on to the customer, and undersells many of his competitors. "Taylor-made" ice cream sells for 45 cents a quart in the Arcadia. Malted milks are 15 cents, sodas 10 cents, and sundaes with two big scoops of ice cream 15 cents.

His two jobs of selling "Taylor-made" ice cream and Taylor Freezers are mutual profit-builders, Costomiris claims. The more popular that particular type of ice cream becomes, the more machines he will sell. And the more machines he sells, the more well known and popular will his ice cream become. So he talks both products to whomsoever he meets.

A pleasant place is his "Arcadia" confectionery. Softly lighted booths, mirrors, subdued coloring, a good radio, and pretty girl attendants all help. So does the affable manner in which Costomiris and his helper, also Greek, meet the patrons. The "rusta biff, stromberry pie" accent has no place in their speech. They are naturally cheerful and, briefly said, are good salesmen.

Manufactured by the Taylor Freezer Corporation, Beloit, Wisconsin, a subsidiary of the General Refrigeration Company, the 50-gallon unit operated by Mr. Costomiris is quite simple to operate.

Doubles Volume

Six quarts of "mix" are poured in the top of the freezer, the brine cooling and freezer motors started and run for six or seven minutes, and about three gallons of ice cream are then drained from the bottom into containers ready for the cooling compartments which constitute part of the machine.

The "mix" can be bought from almost any ice cream company at a cost of about $1.10 per gallon. Mr. Costomiris adds his own flavoring, and the "mix" is ready. Although the machine is rated at a lower output, this operator claims once to have made 18 gallons in one hour.

The freezer is energized by a ¾ h. p. Leland motor placed on the cabinet. The refrigeration is accomplished with a 1½ h. p. Lipman ammonia compressor, automatically controlled, and located in the basement.

His Bishop-Babcock soda fountain is operated in conjunction with a two-cylinder Frigidaire compressor located in the basement.

DAIRY CONCERN WANTS REFRIGERATED FOODS

New York, N. Y.—The Regent Dairy Products Corp., of this city, is anxious to complete distribution arrangements for Metropolitan New York with some manufacturer of refrigerated products, according to L. L. Levy, of that organization.

This company distributes a variety of dairy products in New York, many of them of their own manufacture. At times they have handled fresh frozen strawberries, claiming to have met with good success in this line.

Their trucks visit the dairy stores and restaurants in this city on the average of three times each week, and since the foods they now handle are perishable, they feel that refrigerated products would fit in well with their system.

A New Field
—Scarcely Scratched

ELECTRIC REFRIGERATION has revolutionized the merchandising of ice cream. Modern methods require equipment designed for the making as well as the dispensing of ice cream by retailers, with the result that an entirely new field has been opened to equipment dealers.

UNIVERSAL
Ice Cream Making and Dispensing Units

The most complete line of its kind on the market

Our announcement in March of a new addition to our line will increase the flood of inquiries that we are already receiving from ice cream dealers all over the country.

Some progressive dealer in your territory will cash in on these inquiries. Will it be you?

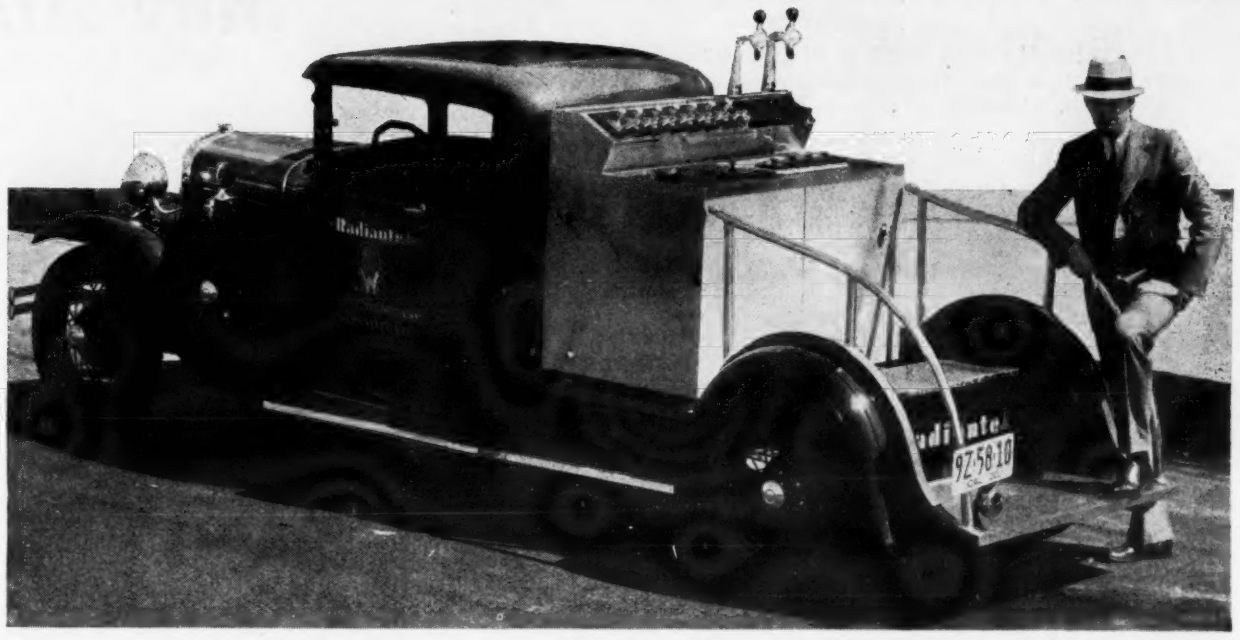
Write at once for full information.

UNIVERSAL FREEZER CORP.

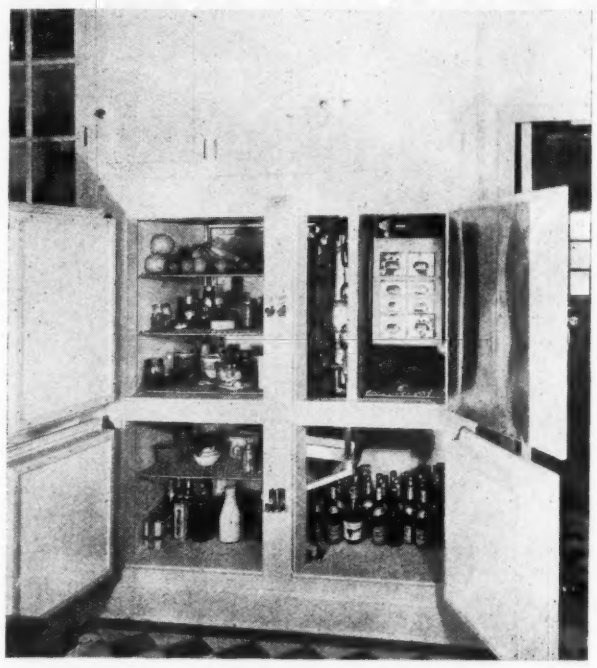
1113-15-17-19 Penn Ave. PITTSBURGH, PA.

DEVELOPMENTS IN FOOD REFRIGERATION

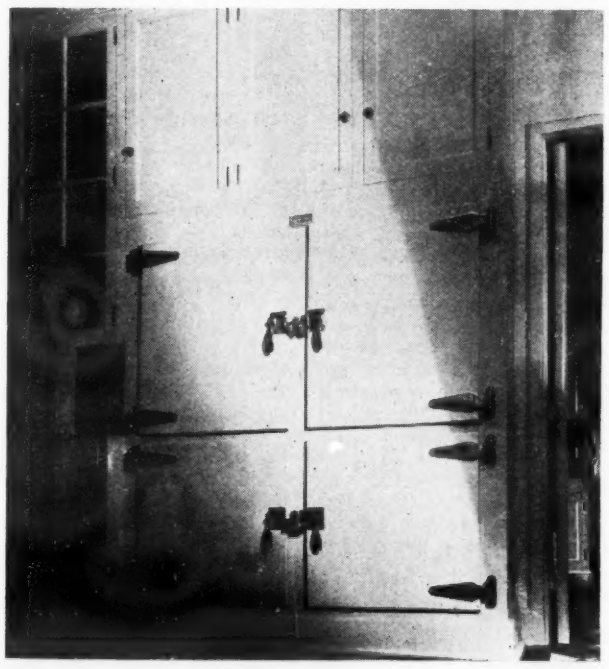
Novel Designs Appear For Grocery, Home, Confectionery



Taking the soda fountain to the prospect is the chief duty of this specially rigged-out Ford coupe. Z. D. Smith of the Weber Showcase & Fixture Co., pictured here, reports that this display on wheels has met with good success in the field. (See story on Page 7.)

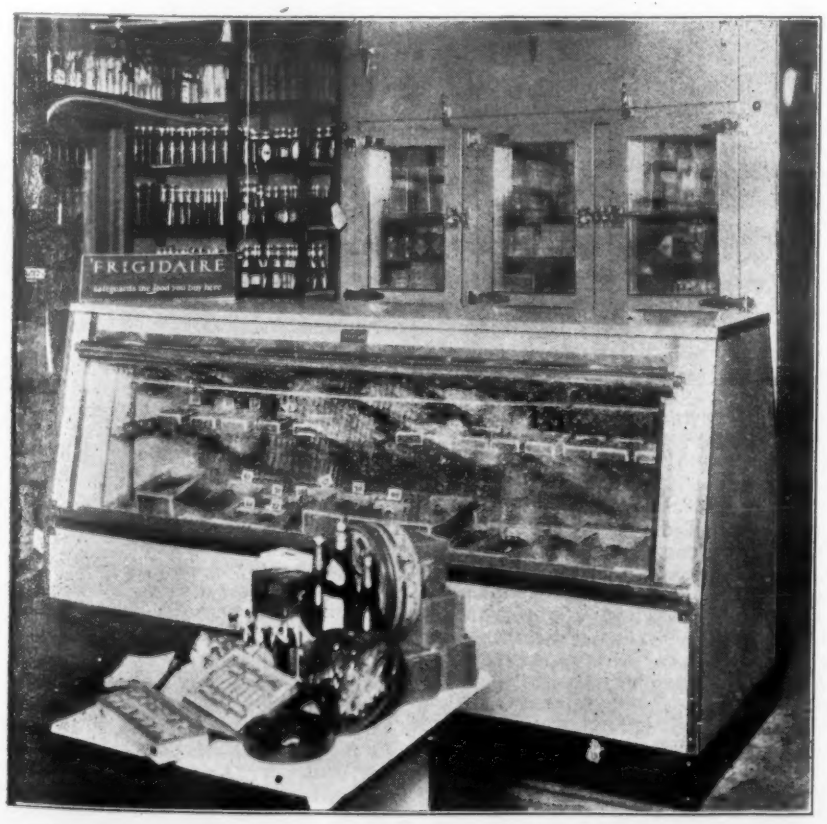


Service for both the butler and the chef is obtainable in a Chrysler-Koppin cabinet installed in the residence of George R. Cooke, Detroit. (See story on Page 5.)

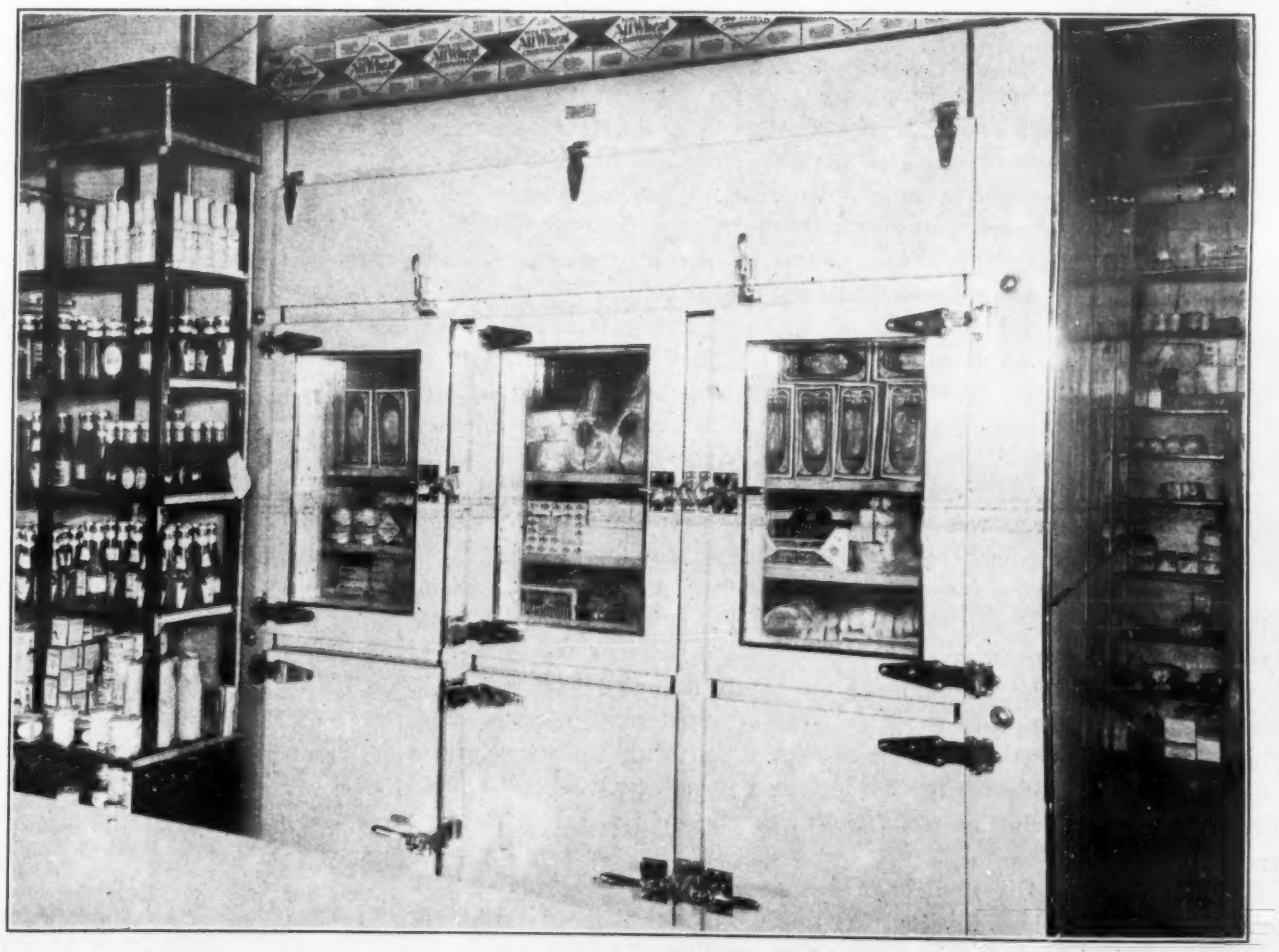


This Copeland equipped refrigerator in the Cooke home has eight service doors, four of which open into the kitchen and four into the butler's pantry.

The appeal of foods well displayed is now taking hold in the ice cream industry. Here is a cabinet constructed by the Grand Rapids Cabinet Co., Grand Rapids, Mich., which is making good use of its display powers in a grocery store. Four compartments have display facilities.



Both fresh and frozen meats are sold by J. E. Schaaf. The Seeger refrigerator in the rear of the store keeps the frozen products, while the Hill display case is for the fresh meats.



To solve the defrosting problem, J. E. Schaaf, who operates a grocery in East Orange, N. J., devised a special damper arrangement in this two compartment Seeger refrigerator. A special heater speeds up the operation of defrosting the cooling coils. (See story on Page 6.)

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Editorial Aims of the News

To encourage the development of the art.
To promote ethical practices in the business.
To foster friendly relations throughout the industry.
To provide a clearing house for new methods and ideas.
To broadcast the technical, commercial and personal news of the field.

Expanding Horizons

EVERY once-in-a-while an enthusiast for electric refrigeration is stopped by a professional wet-blanket with the question: "What of the future? What's going to happen to all your fine enthusiasm and your expansion programs when the saturation point is approached, when the field settles down to just a few concerns, when your product ceases to be a specialty item and becomes a commodity?"

The answer is simple. In the first place, in spite of the startling rise of the electric refrigeration sales curve (95 per cent of all household and commercial sales have been made within the last five years) the saturation point still appears to be a long distance away. More important, however, is the fact that the expansive realm of commercial refrigeration is still in the infancy stage. New applications of the principle that low temperatures preserve food are limited only by the imaginative bounds of those engineers and inventors who are studying the problem.

E. G. Biechler, president of the Frigidaire Corp., wrote the text for this editorial when he said, in the January 14 issue of the NEWS: "Electric refrigeration is entering a fast expanding market. Many new applications for this type of equipment have been worked out in the past five years, many more will be evolved before the end of 1935. At this time it seems a very reasonable belief that the demand for commercial equipment will develop fully as fast as the demand for household units."

Similar beliefs were expressed by other outstanding executives of the industry in the same issue. "In potentialities for new technical development," states President Louis Ruthenburg of Copeland, "the commercial field appears the more promising. As to commercial installations, our surveys indicate a tremendous market not yet sold. The cumulative effect of sales effort in this field should produce rapidly increasing volume during the next five years."

Declares C. V. Hill, Jr., of C. V. Hill, Inc.: "Commercial equipment progress for the next five years will be better than the past five years. The commercial market has everything to look forward to—for new ideas—for better progress." Walter Seeger of the Seeger Refrigerator Co., Col. Frank E. Smith of Servel, G. M. Johnston of Universal Cooler, John A. Berghoff of Wayne, and F. Gennett of Starr all maintain that commercial refrigeration is on the upgrade.

Elsewhere in this issue an official of the Kroger Grocery & Baking Co. points out the need for a special low temperature case for frozen strawberries. The case must be small enough to be placed on top of a counter, he thinks, and should have adequate display facilities.

This suggested development is probably just the beginning of a whole series of similar wants which will spring up among food merchants when they become acquainted with the full range of possibilities for commercial electric refrigeration.

The time may come when the food store will have a special case for butter, another for eggs, one for meat, one for pastries, etc., etc. Each may operate under a temperature different from any of the others.

Smaller companies now in the field, as well as those who contemplate tossing their hats in the ring, may find new developments of this type to be their best market.

The giants of the industry are too busily occupied with merchandising household models and certain types of commercial jobs for which there is a large quantity demand to experiment with more specialized applications. They will often accept, recommend, and help sell these smaller-demand specialties when the products are recognized as good and satisfactory.

Whatever the direction in which commercial refrigeration will move in the future, the industry may rest assured that the demand will be great and insistent, for the proper preservation of food is one of the most fundamental needs of mankind. The man with imagination will be the man who will profit from this need.

Revision of Old Cold Storage Laws May Aid Refrigerated Food Sales

By Harden F. Taylor, President, Atlantic Coast Fisheries Corp.

PERHAPS it is worth while, for those of us who are most interested just now in the possibilities of freezing as a new and advanced technique in the conservation and distribution of perishable foods, to look at ourselves in the light of history. Often overlooked among the more spectacular scientific achievement of modern times, the development of methods of food preservation has, in fact, made possible our industrial civilization with densely populated cities dependent on remote sources of food.

Up to now, the art of canning has been by far the most important development in this field, and will doubtless continue to be vitally important. This art began in France in the early 1800's. Refrigeration followed much later. About 1838 ice was first used to chill fish at Gloucester, and a few years later, about 1845, it was surreptitiously used to ship fish to New York. Around the middle of the century, numerous scientists were performing the fundamental experiments which became the basis of mechanical refrigeration; during the latter part of the century many practical experiments were done in preserving food with cold. By 1900 the freezing of fish and meats had come into extensive use. The end of the World War may be considered as the beginning of the era of scientific application of cold to foodstuffs.

Early Applications Crude

The earlier applications of cold to foods were crudely done, and for the mere purpose of preservation to prevent total loss. Fish and meats were put in cold rooms or in pans on pipe shelves and allowed to freeze. Fish were frequently held fresh until they were, to say the least, stale, and, to avoid loss, were put in storage and frozen as a last resort. When the market was glutted with an excess of fish, they were put into storage to be held for better prices later on—usually in winter when fishing was less productive and the demand stronger. The historical development of refrigeration was not such as to assure the consuming public that it was a benefit; rather, cold storage goods were regarded with suspicion. In addition to the basic reasons for public distrust cited above, there were other reasons as well. Accidental freezing was known to injure such foods as oranges, apples and canned goods. If an orange was inedible after it had been frozen, how could fish or meats be good? This reasoning by analogy from accidental freezings led to the belief that freezing was generally detrimental to food.

Cold Storage Mistrusted

Then, economically, refrigeration and cold storage were looked upon with distrust. In the trust-busting days of the early 1900's, big business generally was the object of attack from all sides, political and legislative. Refrigeration was thought to be employed by the food barons as a device for hoarding the necessities of life, holding up prices and exacting unearned tribute from the common man. It did not seem to occur to anyone that the total product of the farms and fisheries must be sold before the next crop or season; that, by and large, the price over a period was determined by supply and demand; that the supply was increased by prevention of loss by refrigeration, and that if prices were kept at a profitable level during producing seasons, above cost of production, they were made correspondingly lower during the scarce season by cold storage goods—that, in summary, refrigeration is a legitimate economic public service.

The cold storage industry did not answer these objections by proclaiming the technical and economic benefits of refrigeration as a preservative, nor did it make any signal advances in correcting its weaknesses, but concealed the cold storage history of the products it had stored. Frozen foods were never sold as such, but were invariably defrosted and presented to the public as fresh. To the already long list of reasons for public suspicion was added another—that of the defensive and apologetic attitude of the cold storage industry. If the cold storage people themselves keep their services secret, then surely something must be wrong with them.

Accordingly, it became fashionable to pass laws restricting and regulating cold storage. A "uniform" cold storage law was drafted and proposed to be enacted by the several states. Some fifteen of them enacted it, and about sixteen others enacted laws of the same general type. In most of their provisions, these laws are reasonable and beneficial. Sanitary requirements, inspections by authorized public officers, reports, license systems, and other features seem to be in the public interest. Maintaining standards of cleanliness and gathering statistical data which are beneficial to the industry itself, as well as to the public.

The objectionable feature of these laws is the requirement that foodstuffs which are preserved by refrigeration must be unfavorably advertised. Signs are required to be displayed, carrying words that are specified in the laws themselves, in effect warning the prospective in large type that these are cold storage goods, and implying that if he buys them he does so at his own risk.

Other Industries Exempt from Handicap

It would be quite as reasonable, fair, and logical to require the display of a large sign over Ketchups which contain 1/10 per cent benzoate of soda, "THESE GOODS ARE PRESERVED WITH CHEMICALS," or above cured bacon and hams, "THESE GOODS ARE PRESERVED WITH CHEMICALS AND TAR," or above pickles, "THESE GOODS ARE PRESERVED WITH ACETIC ACID," or above sourkraut, "FERMENTED CABBAGE, PRESERVED WITH LACTIC ACID AND OTHER CHEMICALS." All of these statements are true, but they carry an implication of warning and would be distinctly adverse advertising. In only one case does the law command this advertising—that of refrigerated foods. Now, refrigeration is the least questionable of all methods of preservation insofar as it adds nothing to foods, removes nothing material from them, alters their characteristics less and leaves them in more nearly their original condition than any other known preservative. If regulation and control are necessary to protect the public health, they should be applied to any evils that may attend the application of refrigeration, and not assume that refrigeration itself is contrary to public interest.

The case can thus be easily made against the unfairness of present cold storage laws on the other methods of refrigeration now in use, without at all referring to the recent advances made in the newer art of quick-freezing.

Refrigerator People Face Issue

This new art, however, brings the matter of cold storage laws to an issue that must soon be met by the refrigeration manufacturers. We are now going direct to the public with frozen foods. We believe that technical improvements already made and yet to be made will give refrigeration a place of major importance in our food industries, and will profoundly effect food economies in the years to come. It will affect directly, or remotely, almost every branch of refrigeration—the refrigeration engineers, refrigerator manufacturers, ice companies, cold storage warehousemen, railroads, car lines, CO_2 ice manufacturers, grocery stores, refrigeration machinery manufacturers, makers of paper, cellophane and packaging materials used for frozen foods, the fish companies, and packing houses, the butchers and many others.

The laws in question are on the books of thirty odd states and cannot be changed easily. Effort must be made both intensively and extensively to this end. Public opinion must be reached and influenced broadly before results can be expected. Since obviously no one company can hope to accomplish all of this, the undertaking must be sponsored by some association which represents all interests concerned and will command the respect of both legislators and the public. Perhaps the American Institute of Refrigeration with which the American Society of Refrigeration Engineers is affiliated, would be the logical sponsor of such concerted effort. Funds would be necessary. They can doubtless be provided by the many interests concerned. Other fields for concerted endeavor may be important, but this matter of laws can be attacked only co-operatively and deserves our attention first.

Senate Investigates Food Prices

Washington, D. C.—A senatorial investigation of food prices, particularly of bread, is being lead by Senator Wagner, Democrat from New York, who claims to have prima facie evidence that the retail price of bread has failed to reflect the decline in the prices of wheat and flour.

Wagner, author of the bread inquiry, offered the agriculture sub-committee making the investigation, index figures from the Department of Labor, showing that the average cost of bread dropped only from 158.9 to 153.6 from October, 1929, to October, 1930, while hard wheat declined from $1.28 to 78 cents, and flour dropped from $6.10 to $4.30 per barrel.

Senator Carey, Republican from Wyoming, has also introduced a resolution; his movement being to inquire into the price of meats. Senator Brookhart, Iowa Republican, already has pending a motion to include milk and dairy products in the investigations.

Packaged Meats Draw Attention In Far-Off Australia

FRESH cut packaged meats are now being sold in Sydney, Australia, by T. Playfair, Ltd., a well known distributing organization. "*Refrigeration, Cold Storage and Air Conditioning*," a monthly refrigeration magazine published in Sydney, prints an attractive picture of the "Fairplay" packaged meats, and describes them as follows:

"This new method of retailing has already attracted a great deal of attention throughout the Trade and there is abundant evidence that freshly cut and packaged meats are finding considerable favour which must inevitably lead to the supersession of the old-time Butchers' shop with its sawdust floor and bloodspots, etc. All this must give way to the hygienic display in suitable refrigerated showcases.

"The 'unit' method of packaging, which has been so widely used in the retailing of countless other lines of foodstuffs, has been made available to the Meat Trade with the aid of a transparent, glass-like wrapping material known as 'moisture proof Cellophane.' This material provides a suitable wrap for products having a high moisture content or where it is desired to protect from outside moisture. It is also oil and grease-proof.

"The method of wrapping results in a package which gives complete visibility. Fresh meat is sold, to a large extent, on sight appeal. It must have a tempting appearance which will stimulate the appetite and immediately create the desire to buy. Cellophane, a purely vegetable product, with its glass-like transparency, greatly enhances the appearance of fresh meats, especially red meats, and gives a dry, leak-proof package for the customer to carry home. Nothing can seep through and it is odorless and odor-proof.

"The Refrigerating problem in Shops or Stores for handling fresh packaged meats is not very great, since it is not necessary to hold exceptionally low temperatures. A well made and insulated glass display counter which can be obtained, with every confidence, from local manufacturers, will provide attractive display and storage facilities. It has been found that a temperature of from 32° to 34° F. should be maintained in the display cases.

"The general principle of distribution adopted in this method of wrapped meat is to have the carcass prepared, chilled, and at the one central Depot or Store it is then cut up into household joints, such as legs and shoulders of mutton, and lamb, rib and loin chops, veal cutlets, pork chops, and all cuts of beef-steaks. The products are then wrapped in the transparent Cellophane, the operating Firm's registered Brand is attached; and they are then delivered to the various retail Department Stores and Shops throughout the City, Suburbs and Country.

"There is not the slightest doubt that this new innovation, wrapped meats, can be objected to only by individuals who are not progressive enough to adopt it. Eventually it must be insisted upon by the public as the only effective method of distribution.

"Later on, when the Quick-Freezing process has been perfected and meat can be frozen and thawed without bursting the tissue—and consequently affecting its appearance—it will be by means of meat wrapped in Cellophane that distribution will be accomplished, and at a much reduced cost.

"In the meantime, the up-to-date Central Depot of Messrs. Thomas Playfair Limited, at Argyle-street, Sydney, with its modern machinery, storage facilities, and plant, is functioning smoothly, and gradually the Departmental Stores are installing up-to-date glass refrigerated display counters and cases. This marks an enormous step in the progress of the distributing methods of Sydney's meat supply."

A PAGE FOR HOME SERVICE WOMEN

SCRAMBLED EGG DISHES SUGGESTED FOR MENUS

By Clara Snyder

FOR delicious refreshments that will give your winter party an air of individuality and unusualness, try creamy scrambled eggs with your favorite accompaniment.

In order to avoid hurried last minute preparations, try beating the eggs in the morning, allowing two eggs per person. Add to them the cream and the seasonings. Accompaniments, too, can be prepared in the morning and held in the refrigerator until time for serving. The eggs can easily be cooked while the coffee is being prepared.

A little ingenuity in planning foods will originate all sorts of delightful combinations. One that is not especially unusual but that is always popular is country sausage. Two small cakes served with three heaping spoonfuls of scrambled eggs make an attractive plate, garnished with parsley and stuffed olives and accompanied by a simple fruit salad. Shredded dried beef stirred into the egg mixture before cooking is also good, as are diced fried ham or diced salami sausage which has been fried crisp in a little butter. Sardines which have been heated in a little butter are excellent garnishes and taste teasers. Tomato juice or pulp whipped into the egg mixtures adds a flavor that is different. One tablespoonful per egg is a good proportion to use. Oysters mixed with eggs before cooking are unusual and very good. The dish is inexpensive, too, for eggs are cheap this year and a few oysters flavor a large quantity of egg mixture. Grated cheese added to eggs is also good.

In order to have scrambled eggs good, care must be used in cooking them. The most important thing to remember is to keep the cooking temperature low. This keeps the eggs tender and creamy. The following proportions and method of procedure have been found most satisfactory: For each egg allow a tablespoonful of cream, milk or other liquid. Beat the eggs thoroughly and then add the liquid and seasonings. If salty foods such as dried beef, cured ham or salted fish are to be added, omit the salt. Melt three tablespoonfuls of butter or bacon fat in a heavy skillet. Pour in the egg mixture. Keep the flame under the pan very low. Stir the eggs occasionally with a fork, tossing the egg mixture into light, fluffy rolls as the egg cooks. When done, remove at once to warm plates and serve.

Hot muffins, hot buttered rolls, thin brown bread sandwiches, nut bread sandwiches, toasted wafers or hot biscuits are good with the scrambled egg plate. A simple fruit salad or fruit cup completes the menu that will be popular with even the most sophisticated guest.

RECIPES FOR FROZEN PEAS GIVEN IN SMALL FOLDER

Syracuse, N. Y.—For the housewife buying frozen Alpine brand green peas, the H. C. Hemingway & Co., canned goods packers, have prepared a folder which gives directions for cooking this product.

The directions read as follows: "Let the peas de-frost naturally if possible. If allowed to stand in the carton in ordinary room temperature, without cover being removed, de-frosting will be accomplished within a few hours. If packed in an ordinary refrigerator with a temperature of 40 to 50 degrees, the ice pack will melt within 36 to 48 hours. If necessary to hasten de-frosting, fill a large kettle or dish with cold water and place the peas in same after removing from the carton. Do not use hot water under any circumstances.

"After ice pack has been allowed to melt—cook the peas the same as you would any fresh peas, seasoning to taste with salt, pepper and butter. Sugar may be added to assist in bringing out the natural flavor. Cook in a covered dish same as any other peas. A pinch of soda may be added if desired."

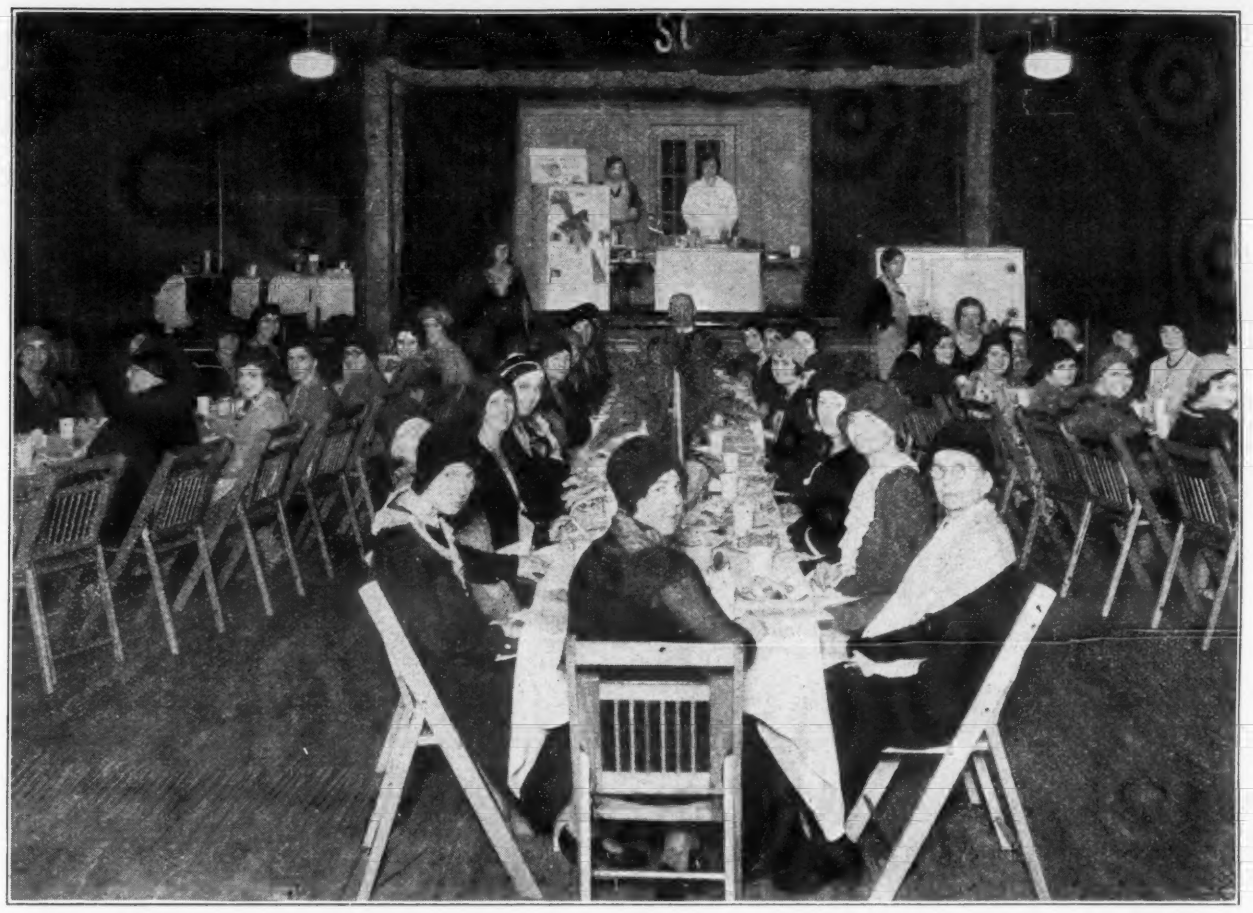
ELECTROLUX ON PRIZE LIST

Woodland, Calif.—A Model EL-5B Electrolux gas refrigerator has just been offered as third prize in a newspaper subscription drive launched by *"The Mail"* of this city. The refrigerator was purchased from Norman B. Miller, local dealer. Other valuable prizes are a Buick sedan, Essex coach, Philco radio and many cash awards.

MATTHEWS COMPLETES JOB

Birmingham, Ala.—Installation of 12 units in the Kenwood Apartments was recently completed by the Matthews Electric Supply Company, distributors of General Electric, according to Jack Saur, sales manager.

Delicious Frozen Delicacies Are Ace-High



Frozen delicacies prepared in a Kelvinator by Miss Gertrude Jannsen, of Kelvinator-Philadelphia, were served at this luncheon bridge.

DOUBLE DUTY

Detroit, Mich.—The Copeland-Detroit Branch recently made an unusual installation in the home of George R. Cooke, president of the George R. Cooke Co., construction engineers, of Detroit.

The cabinet is a specially built Chrysler-Koppin, with eight doors. Four doors open into the kitchen on one side and four doors open into the butler's pantry on the other. The refrigerator is 5 feet 2 inches wide, 5 feet 4 inches high and 3 feet deep.

The cooling units are a 16 AS Copeland-Larkin coil for refrigerating the food compartment, and a No. 30 Copeland Coldhold for ice making. The ice-making compartment is insulated from the remainder of the refrigerator.

The kitchen side of the ice-making compartment is equipped with food shelves for storing foods that require very low temperature. All the equipment is operated by one Copeland RW-516 water-cooled condensing unit located in the basement.

BRIDGE PARTIES POPULAR IN WATERBURY

Waterbury, Conn.—So successful have been the parties held in Refrigeration Institute of Modern Home Utilities, Inc., General Electric refrigerator distributor here, that the institute program for this year is already quite filled.

During last year more than thirty different clubs held meetings of one kind or another in the institute rooms, with an attendance of approximately 2,000 people. These people were invited guests, either on the part of the salesmen or through some member of the distributor organization. The clubs consisted of the following types: 18 bridge parties, 3 high school groups, 1 children's party, 3 cooking demonstrations, 1 show party and 1 health lecture.

NEW DORMITORY AT U. OF M. KELVINATOR EQUIPPED

Ann Arbor, Mich.—The new 400-room co-ed dormitory at the University of Michigan, named Mosher-Jordan Halls in honor of two of the women deans, was recently opened for occupancy. The dormitory's kitchen department is equipped with Kelvinator electric refrigeration, consisting of the following:

Four compartment meat, vegetable, dairy and baker's storage cooler; two kitchen refrigerators for double service; two service room refrigerators, and a large Jewett refrigerator. All of these are hooked up to Kelvinator standard refrigerating units.

A water-cooling system, with Day and Night storage type cooling tanks, cased and insulated, with Kelvinator compressors and a Westco circulating pump were also installed.

ELEVEN FOR APARTMENT

Poughkeepsie, N. Y.—The Wallace Company has contracted to supply the new Roosevelt apartment house with eleven General Electric refrigerators.

Refrigeration Finds Job In Beauty Shop

Chicago, Ill.—The beauty shop is now a good automatic refrigeration prospect. The ever constant search for methods of pleasing milady's whims has led to development of the application of heat and cold in facial treatments. Pakkold, a cooling device, marketed by the Le Barque Co., 1541 E. 67th Place, Chicago, is now used during the treatment for closing the pores and shrinking the skin, also for stimulating the circulation.

The bowl of the Pakkold, which is a die metal casting without a core, contains a liquid inside which when frozen

has a high heat absorbing capacity. The heat from one's body is quickly transmitted to the ice by the metal shell. Polished and heavily plated with chromium, the bowl has a peculiar shape, one side of instrument being rounded to fit the curve under the neck, while the other side is a flatter surface for use on the cheeks. The Pakkold can be quickly cooled in the freezing compartment of an automatic refrigerator or by contact with a piece of ice.

A touch of color is added to the instrument by the Catalin handle, polished and embossed, and finished in colors of jade, sea green, orchid, yellow, carnelian, ruby or black.

HOME SERVICE DIRECTOR VISITING DISTRIBUTORS

Seattle, Wash.—Arriving here on January 26th, Miss Edwina Nolan, home service director of the Electric Refrigeration Department, General Electric Co., is spending three days contacting the home service department of Gordon Prentice, Inc., Seattle distributors.

Miss Nolan left Cleveland on January 13th in her swing through the Northwestern section of the country.

DEFROSTING PARTIES

Oakland, Calif.—Defrosting parties with plenty of fun and eats were recently suggested in a syndicated article which appeared in *The Tribune*, and a number of other newspapers throughout the country. George Ruck, enterprising representative of the electric refrigeration department of the General Electric Company, sent in the clipping of the article in which K. C. B. tells of the birth of the idea for defrosting parties. The article reads:

How it started.
Was that one night.
Along about ten.
When we had guests.
We were reminded.
We had passed the time.
By a couple of days.
When we should have defrosted.
Our new ice box.
And if it happens.
You haven't one.
I then shall tell you.
That defrosting it.
Requires the current.
Shall be shut off.
And all of the ice.
About the coils.
Permitted to melt.
And the box contents.
All be removed.
And the box washed out.
And with this done.
The current goes back.
And the contents go back.
And re-freezing begins.
And on this night.
When our guests were there.
It was determined.
We should go out.
And defrost the box.
And so we did.
And in removing.
The various foods.
We made discovery.
That many of them.
Were smacks of things.
That looked to us.
Quite appetizing.
And pretty soon.
We were sitting down.
At the kitchen table.
With a banquet spread.
In front of us.
And coffee was made.
And other refreshments.
Came on their way.
And the ice was melting.
From off the coils.
And we sat and ate.
And enjoyed ourselves.
And anyway.
It was on that night.
That we discovered.
Defrosting parties.
And we have them now.
Twice every month.
And it's lots of fun.
And our friends come in.
And do the work.
And if it happens.
You have a box.
Like our box.
And are not too proud.
To eat in the kitchen.
You ought to try it.
I thank you.

RECIPES FOR TRYING OUT THE NEW REFRIGERATOR

FOR new owners of electric refrigerators, Mrs. P. K. Dunning of the Home Service Department, The Society for Electrical Development, suggests the following simple recipes which require no special technique and which present no risk of failure whatsoever:

Prune Bavarian Cream

1 cup prune pulp
1 egg white
⅛ cup sugar
½ cup cream
⅓ cup chopped walnuts
1 teaspoon vanilla

Rub the cooked, pitted prunes through a coarse sieve. Beat egg white stiff and combine with prune pulp. Add nuts and vanilla, and finally the cream, whipped until it will hold its shape. Pour into tray of electric refrigerator, put tray in freezing compartment and freeze for several hours. Serve with a thin custard sauce made with the egg yolk.

Cherry Bavarian Cream

¾ tablespoon gelatin
2 tablespoons milk
1 cup milk
1 cup cream
½ cup sugar
2 eggs
1 small bottle maraschino cherries

Shred the cherries. Soak the gelatin in the two tablespoons of milk. Scald the cup of milk in double boiler. Beat together the sugar and eggs and add the hot milk to them, stirring constantly. Return to double boiler, cook and stir constantly, until mixture thickens slightly and will coat the spoon. Remove from fire, add the soaked gelatin and stir until thoroughly dissolved. Chill thoroughly. When thoroughly chilled and about the consistency of whipped cream, beat the cup of cream until it will hold its shape and combine with the custard mixture. Fold in the cherries and pour into freezing tray of electric refrigerator. Place in freezing compartment and freeze for several hours. Stir once, at the end of half an hour.

Chicken and Tomato Mousse

1 chicken
1 onion
1 stalk celery
1 tablespoon gelatin
¼ cup cold water
tomato aspic jelly

Stew the chicken with the onion and celery until the chicken is very tender. Remove chicken and reduce stock to 1½ cups. Strain and pour over the gelatin, which has been soaking in the cold water. Stir until gelatin is thoroughly dissolved. Remove meat from chicken and cut in small pieces. Add to the gelatin and stock mixture.

Make up about three cups of your favorite tomato aspic jelly and pour about half of it into a rectangular mold. Set in food compartment of electric refrigerator to become firm. Then pour the chilled chicken mixture on top of the jelly and return to electric refrigerator to set. Then add the remaining tomato liquid and place in refrigerator until serving time. This jelly should be put in the coldest spot in the refrigerator's food compartment, but not in freezing compartment.

Chocolate Mallow Cream

17 marshmallows
1 cup milk
2 squares chocolate
1 cup cream
1 tablespoon vanilla
speck of salt

Melt the marshmallows, milk and chocolate in the double boiler, stirring to make the marshmallows melt as quick as possible. When entirely melted, chill thoroughly. When chilled and somewhat thickened, whip the cream until it will hold its shape and combine with the chocolate mixture. Add the vanilla and salt. Pour into tray of electric refrigerator and place in freezing compartment for several hours.

At serving time prepare a quantity of very short waffle batter and turn the Mallow Cream out on a platter. Bake the waffles as needed, serving them with a square of Mallow Cream in the center and a chocolate fudge, mocha or coffee sauce poured over all. Nuts are delicious added to the sauce or sprinkled over the top of cream before serving.

THREE FRIGIDAIRES FOR NEW MIAMI BEACH HOME

Miami, Fla.—The Domestic Refrigeration Co., Inc., Frigidaire distributors for southern Florida, is making an installation in the new $150,000 home of N. L. Natherson, being erected on Pine Tree Drive, Miami Beach. Three units, an AP 18, an ice maker and a G 4, are being installed.

LOW TEMPERATURE REFRIGERATION PROGRESS

ACTIVITIES OF RAPID FREEZING IN 1930 TRACED IN ENGLAND

By Bernard C. Oldham
Member, A. S. R. E. and N. A. P. R. E.

London, England — Summarizing the achievements of rapid freezing in 1930, W. Zarotschenzeff, son of the inventor of the "Z" process of quick freezing, addressed the British Association of Refrigeration recently at the Hall of the Institution of Mechanical Refrigeration Engineers in London. Lecturing on the subject, "Latest Achievements in Rapid Freezing and Chilling Methods," Mr. Zarotschenzeff addressed approximately 300 people, including representatives of the fish, fruit and meat industries, various universities, the Cambridge Low Temperature Research Laboratory, and visitors from Australia, New Zealand, Argentina and Norway.

The lecturer stated that Kolbe's system has been perfected and is being applied in the United States. This is the method which is operated on the diving bell principle. An abstract of Mr. Zarotschenzeff's address follows:

The Nordic-Harden, Taylor and Cook systems have been improved and applied for continuous working, producing standard quarter- and half-pound frozen fish fillets. Freezing is carried out at a brine temperature of –37° F. These two systems, Kolbe and Nordic, can, however, only freeze one side of the fish at a time.

In the "Z" method the fish is frozen from both sides, this being achieved by an indirect contact of the product with the brine.

In 1930 the following methods have also been introduced:

a. CO_2 (solid carbon dioxide). This method, the lecturer said, has a great future in small installations, but is as yet only in the experimental stage.

b. Rotating drums with direct expansion ammonia evaporator, at very low temperatures, (–50° F.). This method is still only in the experimental stage.

c. Very low temperatures (–50° F.) are applied in the meat industry in the United States when sharp freezing with a strong air circulation is applied for freezing hams, bellies, loins, etc.

d. Freezing in air is not as rapid as freezing in brine, and cannot really be called a quick-freezing process.

European Developments

In Europe the following developments may be noted:

The Ottesen method perfected and applied on board the trawler "Volkswohl" in Germany.

The method "Sacip" on board the trawler "Sacip," consisting of a rotating drum and a brine spray. The results achieved are not published.

Oscar Dahl's method in France applies a solution of salt and ice in the form of a sprayed brine, instead of the use of refrigerating machinery. This method is applied on trawlers, the temperature of the brine being 0° to –2° F.

S. S. Melhouse has been equipped in France by the "Z" method. After six months' trip to Greenland, about 100 tons of frozen fish arrived in Paris.

S. S. Northland in England employs the "immersion" method, perfected by Mr. Pique.

It is desirable that the product treated by means of low temperature should undergo as little change as possible during the various stages of freezing. The advantage of rapid freezing as compared to sharp freezing methods is that the product treated undergoes the minimum of change.

Owing to the formation of ice crystals in muscles during freezing, the tissues break and large crystals form. After defrosting, these become liquid, consisting of water and gelatine-like sarcoplasm.

Advantages of Rapid Freezing

The latter injures the structure of the products and hence the appearance, taste and flavor deteriorate. With rapid freezing at low temperatures ice crystals are also formed, but these do not damage the tissues. This is due to the fact that the crystals are considerably smaller than those that are formed when applying sharp freezing. They are so small that they tend to form a network of small cavities which cannot affect the individual muscular fibre of the tissue. Hence the appearance, taste, quality of the flesh thus treated, as distinguished from that of the slowly frozen one, has a better taste, retains its viscosity and elasticity, cuts better and has an appearance of a fresh product; also no loss in weight or drip takes place.

During the lecture a number of slides were thrown on the screen, showing various packages of meat and fish cuts, and also freezing curves. One set of curves of particular interest was that by Stiles, showing the comparison of time required to freeze fish of various thicknesses in air in solution at 14° F. and –6° F., taking one-half inch thickness of fish in air, the freezing time being 47.5 minutes; in brine at 14° F. the same thickness is frozen in 50 minutes; the same thickness in brine at 6° F. is frozen in 18 minutes.

The "Z" principle of rapid freezing has been introduced in recent years by M. T. Zarotschenzeff, who carried out a number of experiments on a commercial scale with perfect success.

It is a process of rapid freezing and wet chilling. The product is frozen in a chamber filled with a cold brine-fog produced by minute particles of brine suspended in the air, so-called "Atomized Brine." The product treated is surrounded by a brine fog and there is no risk of the salt penetrating into the surface of the product.

European experience proved that the "Z" process provides a good solution. It can be applied on board trawler and on land, it is simple to handle and compares favorably with other systems, as it is cheaper and guarantees a better product.

Slides Compare Different Processes

Another interesting slide was that comparing a set of curves prepared by Professor R. Plank (the world famous authority on refrigeration) in which he showed three curves for freezing meat: 1. Immersion, by Ottesen. 2. Rain, by Hirsch-Taylor. 3. Atomized Brine, by "Z." The temperature of the brine and freezing being the same in the Ottesen immersion method, 1,000 litres of brine being used in one hour; in the Rain method (Hirsch-Taylor), using 700 litres of brine in one hour; and in the "Z" method, 540 litres per hour. This proves that the same results are achieved with various quantities of brine:

The "Z" Process consumes 100 per cent of brine.

"Rain" Process consumes 130 per cent of brine.

"Immersion" Process consumes 185 per cent of brine.

Another set of curves showed the comparison of chilling hog carcasses:

1. General dry chilling in Europe, 36 hours.

2. A more rapid dry chilling process in the United States, 24 hours.

3. "Z" method of quick chilling by means of pulverized water, 9 hours.

4. "Z" method of quick chilling by means of pulverized brine, 5½ hours.

It will be readily seen that there is a saving in time, and that the cost of installation is reduced when atomized liquids are used. This method has also a very great bearing on reducing shrinkage to a minimum.

The many factors affecting the rapidity of the "Z" rapid freezing process were formulated; these indicate the complex nature of the problem, and the enormous field for experiment which it offers.

One of the most interesting exhibits which the food industries have seen in England in recent times is a demonstration plant at Fleetwood, where rapid freezing and chilling of fish, meat, offals, berries, and other products has been developed by the inventor of the "Z" process. These tests were carried out personally by Mr. Zarotschenzeff and the conditions were such as would be met under commercial conditions, thus making them of real value to the industry.

Fleetwood Plant Described

This plant consists of a sleeve valve ammonia compressor, belt driven by an electric motor, multitabular condenser, brine circulating pump, brine filter and deodorizer, "Z" mist freezing cabinet, and cold storage cabinet.

Whole fish were put into specially designed trays and placed in the freezing cabinet and subjected to the atomized brine mist, the brine coming into contact with the fish. Freezing completed, the fish were then removed from the freezing cabinet and washed in fresh water at a temperature of 68° F. to ensure the removal of any surface brine; then they are glazed and dipped in fresh water at 35° to 38° F. and placed in cold storage cabinet at a temperature of 0° F.

In the case of freezing fish fillets, meat cuts, offals, berries, etc., these are wrapped in cellophane and other paper, placed in special brine-tight cartons, and subjected to an atomized brine spray, this process being effected by an indirect contact of the product and the brine. Freezing completed, the wrapped fillets, meat cuts, etc., were removed from the containers and placed in cold storage to be kept in a frozen condition until required.

Fish, Meat Inspected

The whole fish and the fish fillets, meat cuts and other products were subjected to a thorough inspection, and specialists and practical authorities found them to be in a perfect condition in regard to appearance, color, flavor, taste, etc.

One of the advantages of this method is that it can be installed on board the usual type of fishing craft, and on board trawlers. The following is the cycle of operations:

As soon as the fish is hauled on board it is cleaned and chilled by means of atomized brine to a temperature of 32° F. This is necessary in order to make the freezing process as rapid as possible. After the fish is thoroughly chilled it is passed to the freezing chamber where it is frozen by means of a brine fog or spray to a temperature of –6° F. (–21° C.). The frozen fish is then treated in the next portion of the chamber by fresh water sprays (fog) which wash away all traces of brine. The fish is then packed and stored. Ordinary refrigerated holds with insulation are installed on board and cold storage is fitted on land.

The cost of such an installation is moderate, the only extra cost being the construction of a special freezing chamber consisting of an insulated box, with rails or conveyor, brine pipes, and spraying devices.

The lecture was followed by an interesting discussion which showed that both scientists and practical men recognized the significance and importance of the "Z" process, and an intense interest was in great evidence among technical and industrial people connected with the food industry.

Packaged Products

One of the authorities of meat inspection in London paid special attention to perishable products, such as fish fillets, meat cuts, offals, etc., packed in cartons. He thought this meant an evolution or perhaps revolution in the food trade, that we shall witness the appearance of quick-frozen packaged food products with big prospects in production and distribution. The consumer will receive meat and attractive, sanitary, convenient packages of food which retain all vital elements, like juices, aroma, and vitamins.

The latest publication of the inventor, *"Between Two Oceans,"* offers the readers a detailed description of scientific and practical methods in the field of quick chilling and freezing, enumerating the following systems applied at present: Ottesen, Petersen, Kolbe, Taylor and Birdseye.

The sales experiments in the United States and Canada proved that the public is ready to buy frozen fish and meat in cartons. Large chain stores are considering the possibilities of adopting this system in their stores. The independent retailer and butcher is now preparing for the advance of non-perishable meat in cartons and is prepared to meet the evolution in the meat distribution.

Australia, New Zealand, South Africa, Canada will be the suppliers and exporters of frozen meat and offals in cartons and will ensure a higher standard of life in Great Britain.

In conclusion, the distribution of meat, fish and fruit in cartons involves the following problems:

a. In quick-freezing, very low temperatures should be avoided as they are too expensive, and also require two-stage compressors.

b. The need of a simple and handy system of identifiable packages of fish, meat and fruit bearing an appropriate trade-mark as a guarantee of quality.

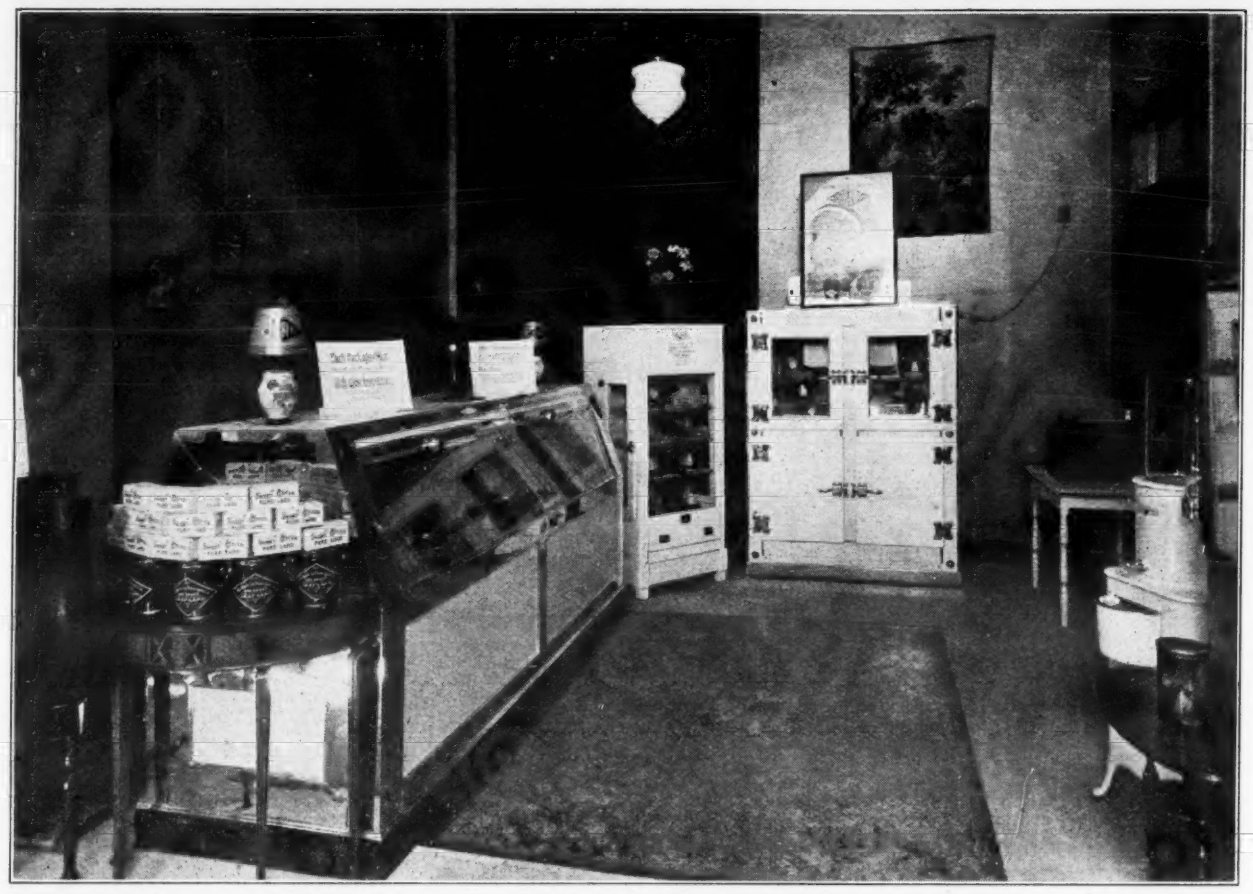
c. Refrigeration in all forms of transport to guard against thawing.

d. Suitable display cabinets and refrigerators in retail stores.

e. The quick-freezing method must be of such a character that when thawing preparatory to use, no signs of drip will take place.

f. The frozen products must suit all the requirements of the housewife; they must be equal to fresh products in appearance, taste, and flavour.

Model Market for Packaged Meats



Arkansas City, Kan. — Refrigeration equipment manufacturers co-operated with the Keefe-Le Stourgeon Company here recently in the Demonstration Package Meat Market, which was operated on the main floor of a downtown office building. Furniture and art dealers also assisted, as did the local power company, in the demonstration.

"The object of the demonstration," Keefe-Le Stourgeon officials said, "was not only to display and sell frozen meats and poultry, but to give the public an idea as to what it may expect a modern meat market to look like a few years hence."

No scales were used in the demonstration market and their absence was particularly noted by some of the shoppers. Steaks, chops, roasts and boils, both pork and beef, were cut at the plant and wrapped in cellophane. The packages were weighed at the plant and tagged with the name of the product and the amount.

Serving the shoppers were four girls dressed in bright-colored smocks. These girls were selected from the various departments of the Keefe-Le Stourgeon plant and were given special instructions.

Both a display case and a refrigerator were used to take care of the cooling requirements of the market, the former doing low temperature work and the latter operating at above freezing temperatures. The display case was a new Koch four-glass, low temperature model, cooled by a Frigidaire condensing unit. Temperatures from 6 to 8 degrees F. were maintained in the case, the upper part of which was used for display and the lower section for storage. No difficulty was encountered in filling orders out of storage, although it was expected that housewives would insist on getting the identical steak or roast that they saw in the display.

Cured meats, such as sliced Ark ham in cellophane packages, sliced bacon, sliced dried beef, butter, cheese, mayonnaise, etc, were stored in a General Electric commercial refrigerator at temperatures above the freezing mark.

FROZEN GRAPE JUICE IS BEING PRODUCED BY WESTERN GROUP

Lodi, Calif.—The new quick-freezing plant constructed for Vita-Fruit Products, Inc., is now producing frozen grape juice.

The grape juice is run through a series of refrigerated coils designed to bring the liquid down to the lowest possible temperature. The coils, in contact with cold brine, reduce the temperature of the juice by 30° F. in a few minutes. An oil drum filler automatically fills and weighs metal cans. These are further cooled by a cold air blast, chilled by being blown through brine spray in the control rooms below. The cans of juice then go to storage rooms which may be held at from zero to 20° F. This quick-frozen juice can be stored long periods without impairing its flavor or taste, and since no preservative is added, it will have all the properties of fresh juice when thawed.

The new Lodi plant has eight cold storage rooms heavily insulated with cork so that a constant sub-zero temperature can be maintained. Each is 90 ft. long, 20 ft. wide and 18 ft. high, and each holds 10,000 ten-gallon cans of grape juice, a total storage capacity of 800,000 gallons. The insulation was installed by the Armstrong Cork & Insulation Co. Four inches of corkboard, surfaced with a mastic finish, covers the concrete floor; the walls are of six-inch corkboard with mastic finish, and the roof has six inches of corkboard covered with a composition roofing. The plant is equipped with three Vilter refrigerating machines.

FRESH, FROZEN MEATS BOTH SOLD IN GROCERY

East Orange, N. J.—Duplexing of the refrigeration equipment on Frigidaire compressors in the grocery of J. E. Schaaf here has helped him handle the frozen foods he sells more efficiently. Hooked up on the compressors are a two-compartment special Seeger refrigerator, a display case, and a vegetable cooler.

The special refrigerator was designed by Mr. Schaaf and constructed by the Seeger Refrigerator Co. of St. Paul. It is a double service freezer, accessible in both the front and rear through six doors. An insulated partition divides the refrigerator into two separate compartments which can be refrigerated independently of each other. In the front section, where the frozen foods are stored, a temperature approximate to zero is maintained, while in the rear compartment the temperature is 38 degrees.

Sales of quick-frozen foods by Mr. Schaaf have run up as high as $400 a week. At first he carried the frozen products in the low temperature case, but with the expansion of business added the Seeger refrigerator in which he now stores these products. Along with the frozen foods, he is now carrying a line of fresh packaged meats, which are kept in the case at a temperature of 36 degrees.

Mr. Schaaf designed the special damper arrangement in the Seeger freezer refrigerator and has applied for a patent on this device, which cuts off the cooling bunker during the defrosting operation, which is accomplished by a special heater arrangement.

Tests indicate that defrosting can be accomplished within 40 minutes with the heater arrangement, and the damper holds the temperature in the freezer to within a variation of two degrees.

DISPLAY FEATURE IS POWERFUL FACTOR IN FOOD MERCHANDISING

By W. L. Malloy
Sales Manager, Grand Rapids Cabinet Co.

AWAY back in the time Adam was a baby, or at least a young man, the display feature we hear much about today as a powerful factor in the handling of foodstuffs, was forcefully brought into use by the Serpent in the Garden of Eden.

I think the Serpent a very clever salesman. It is generally recognized that woman's curiosity is one of the strongest influences to bring about action the world has ever known.

But did the Serpent attempt to use this lever? Did he go to Eve and say, "Now Eve, there is a splendid apple hidden around here somewhere, but you are not to touch it, or even look for it, . . . it is forbidden fruit?"

He did not!

He passed right over this known inducement to avail himself of a more powerful one, a more certain one. He showed the forbidden fruit to Eve. He made use of visibility, he displayed that apple, if you will.

Then and there was laid down a lasting example of the sound and basic principle that visibility and display create an eye appeal which, in foodstuffs, creates in turn an appetite which usually results in a sale. Human nature is much the same today as in the time of Eve.

Getting down to right now, take candy for example. How much would be sold if it were all hidden in boxes behind the counter? But that isn't what happens. Candy men reach a gigantic volume because they attractively display their goods. It is neatly arranged under glass. Recently boxes with cellophane tops are in vogue. The same with fruits and nuts.

Ice cream has been a hidden product. Now it is possible to display it under glass in cartons, in quarts, pints or even nickel and dime packages the same as candy bars.

Take frozen meats. Note how the packers are sending out their chops, steaks and choice cuts in attractive packages at popular prices, and how these frozen meat products are being temptingly displayed.

Take the great variety of sea foods. Here is opportunity for unlimited display that fairly impels the purchase by the customer who sees the lines kept in perfect condition in one of the modern storage and display cases.

No investment can overshadow the investment in the proper means and methods of display. Ice cream is as much of a frozen food as is beef or pork or halibut. But this proven basic rule of the value of visibility, of display, has called for new methods of refrigeration, of new ideas in display cases.

Production on glass-topped, low temperature cabinets is on the increase every day. This year should be a record breaker, not only for the maker of refrigerating units, and the manufacturer of low temperature cabinets, but for the dealers themselves who are profiting most by the acceptance of the visibility and display features for marketing more products.

MERCHANTS SEE MILLS FREEZER IN ACTION

Grand Rapids, Mich.—Demonstration of the Mills ice cream freezer was made before a large crowd of druggists and confectioners here by Verne Carlstedt, of the Mills Novelty Co. of Chicago, in conjunction with Boot & Company, distributors of refrigerating plants. The Mills freezer makes it possible for the dealer to manufacture his own ice cream as it performs the duties of a freezer, hardener and refrigerator.

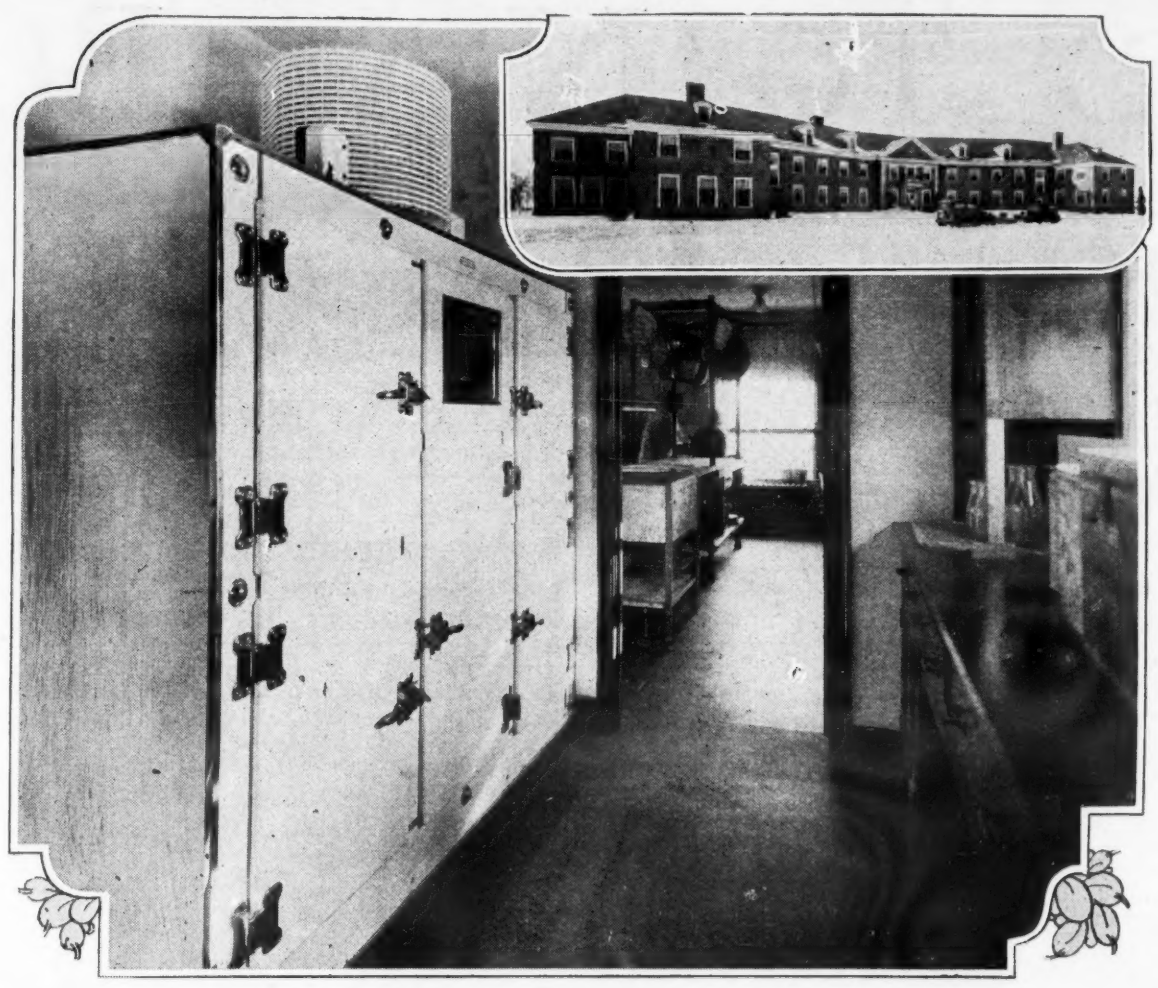
TWO BAKERIES ADD COOLING EQUIPMENT

Oakland, Calif.—Bakeries of the "east bay district" are rapidly adding electric refrigerators to their plant equipment. O. F. Heck, proprietor of the Versailles Bakery, 1306 Versailles Avenue, Alameda, Calif., reports the installation of a large General Electric refrigerator. J. De Ruig, who operates the Dutch Maid Bakery, 2285 E. Fourteenth Street, Oakland, Calif., reports the purchase of a Frigidaire.

NEW COLD STORAGE PLANT

Cordele, Ga.—Improved facilities for cold storing of fruits, vegetables and other products requiring refrigeration will soon be offered to planters in this district. E. J. Sawyer, of Macon, Ga., has completed negotiations for the Parker-Willis warehouse, which he will remodel into a complete cold storage plant. He has organized the Cordele Coal & Ice Company which will direct the operations of the plant.

Safeguarding Meals for the Aged



THE newly-built Armour Home for the Aged in Kansas City has been equipped with refrigeration facilities capable of storing large amounts of perishables. The large General Electric refrigerator pictured here safeguards the foods used in the kitchen, while a PL 95 refrigerator is on duty in the pantry.

Proper care of the foods used in the Armour Home was one of the first considerations of those in charge of the institution, and mechanical refrigeration was found best suited for the purpose. Glueck & Co., distributors in Kansas City, closed the order for the two G. E. units.

BIG INCREASE IN WATER COOLING SALES REPORTED

Los Angeles, Calif.—Sales of water coolers by the Day & Night Water Heater Company during 1930 showed an increase of 400 per cent over the previous year, according to R. O. White, sales manager of the Water Cooler Division. Coolers were shipped to every state in the Union and six foreign countries during the last year.

The 1931 line of Day & Night storage water coolers includes sixteen new models for restaurant and drinking fountain use. The new cabinet coolers are for self-contained installations and will be available with cooling units of 3, 5, 10 and 20 gallons capacity. These models will accommodate condensing units up to ½ h.p. Remote models on legs for restaurant and cafeteria service will be for multiple hook-up. All cabinet and remote models are designed to receive shelves for stacking trays of water glasses. One of the changes in the cooling units is the addition of a thermal tube to receive the control bulb of the pressure switch or thermostatic expansion valve.

NERCO BRINGS OUT NEW BOTTLE COOLER

Scranton, Pa.—Addition of a new bottle cooler to the Nerco line of refrigeration equipment was recently announced by the National Electric Refrigeration Corporation. This cooler is designed for use in stores, gasoline stations and roadside stands, and either ice or mechanical refrigeration can be used.

The cooler is 48 in. high, 28 in. wide, and 23½ in. deep, and may be had with or without legs. In the cooling compartment, the rotator has twenty-two tubes for handling 6½ to 16 oz. size bottles. Each tube may be stocked so that the cooler will contain beverages of twenty-two flavors. By moving the handle of the flavor selector to the desired position, it is only necessary to insert an uncooled bottle of beverage to eject a cold bottle.

NEW YORK STATE OFFICE BLDG. HAS 114 COOLERS

Albany, N. Y.—The New York State Office Building is equipped with every facility for efficient work. Frigidaire water coolers, one hundred and fourteen in number, Model 61-D, have been installed to provide employees with cool drinking water the year around.

Knowing the important relation of properly cooled drinking water to health and efficiency, state executives did not hesitate to specify electric water-cooling equipment. Theodore Tannenwald and Leo Wolf, commercial salesmen of the Albany Frigidaire branch, completed the sale.

MARKET INSTALLATION

Derby, Conn.—The Derby Gas & Electric Company has installed a Frigidaire refrigeration system in the new Ansonia branch of the Fulton Markets, 252 Main Street, Ansonia.

COMMERCIAL BUSINESS GOOD IN LOUISVILLE

Louisville, Ky.—The A. H. Thompson Company, distributors for Frigidaire, has appointed seven new dealers to care for increasing business. In spite of general conditions, this firm has had increased sales over the same period last year for every month since July.

Among recent installations is one for Anders Rasmussem, florist, who is erecting a new building at Seventh and Broadway. This is one of the largest floral installations in the United States. It is a three-compressor job, with three storage rooms, each to be maintained at a different temperature. The boxes are 38 feet long by 10 high and 12 deep.

The contract for the refrigeration in the cafeteria, as well as the water cooling system for the whole Bell Telephone Building, now being erected, went to the Frigidaire.

The Louisville Hotel purchased refrigerators, a water cooling system, an ice cream box and a special salad table, where the salads are chilled on a special frosted counter. The new River Valley Club installed a sixty-cubic foot all-porcelain Frigidaire bulk ice maker, having a capacity of 200 pounds in twenty pound blocks, and also a refrigerated box to keep the ice.

An unusual Frigidaire service was originated for H. H. Kinker, 424 Third Street, soft drink dealer, by Mr. Grubbs of the commercial department. This is a new type of bottle cooler to keep the drinks at a point just above freezing with a dry cold. This equipment consists of a box with a central brine tank, chilled by a coil in one end. The bottoms of the bottles rest against this tank, which runs through the center of the box but does not touch the ends.

Frigidaire is now offering domestic water cooling systems, where cool drinking water is piped to bathrooms, kitchen or halls from a water cooling tank installed in the basement.

COPELAND MARKET JOB

Kansas City, Mo.—Nathan Baraban, manager of the Copeland Refrigeration Company here, recently equipped the meat market of H. W. Dengolesky, 6 East 34th Street, with an XA model Copeland.

He also installed an XA model in one of the Mason-George Stores, in Liberty, Mo. This makes the fifth store of this company that has been equipped with Copelands.

ENGINEERS TEST RADICOLD REFRIGERATING SECTIONS

Cleveland, Ohio—Tests of Radicold refrigerating sections are being made by the Cleveland Evaporator Company to determine heat transfer values in air cooling and conditioning, low temperature, sharp freezing and air drying. Applications of the Radicold sections up to the present time have been limited to display case and small commercial installations, and tests are being made to adapt the coils to larger refrigeration work.

The Radicold section is a semi-steel casting, zinc coated, with evaporator fins tapering from ⅜" at base to ⅛" at outside. The evaporating core imparts a whirling motion to the evaporated refrigerant which eliminates the inert film which lies next to the inner wall surfaces. When the compressor is shut down, defrosting begins at the outside of each fin and continues gradually until the evaporator is clear of frost.

The Cleveland Evaporator Company is affiliated with the Hill Clutch Machine & Foundry Company, also of Cleveland. James W. Smith is president of the company, and Ralph Perkins, director, is also vice-president and general manager of the Hill Company. Lester T. Avery, of Cleveland, was recently elected vice-president.

ALLIANCE COLLEGE TO INSTALL TEMP-RITES

Detroit, Mich.—Six Model 110 Temp-Rites and a No. 3 equalizer tank have been ordered by the Star Electric Company of Erie, Pa The installation will be made in one of the buildings of Alliance College at Cambridge Springs, Pa.

WEBER MOUNTS SODA FOUNTAIN ON FORD CAR

Los Angeles, Calif.—Exploiting a new market for electric refrigeration, the small merchant handling soft drinks either as a main business or sideline, the Weber Showcase & Fixture Company reports success in an innovation recently inaugurated by them.

The novel method adopted by the Weber Showcase & Fixture Company consists of a complete Weber Radiante soda fountain mounted on the aft deck of a standard Ford coupe. Demonstrations are secured and interest is evoked by this method among hundreds of small merchants who might otherwise never become prospects.

The modus operandi consists of the salesman driving his car from town to town, stopping in the front of all stores or wayside places which appear to be logical prospects. The novelty of the vehicle soon atracts a crowd from the sidewalks and this, in turn, quickly gets the attention of the storekeeper inside. The salesman then makes his approach, and Z. D. Smith of the Weber sales organization, who has been handling this end of the operation, reports good results. During the first two weeks that the unique demonstration was employed, Smith averaged a sale a day on a tour of San Diego and Imperial Counties in Southern California.

SPECIAL REFRIGERATOR KEEPS HUNTER'S GAME

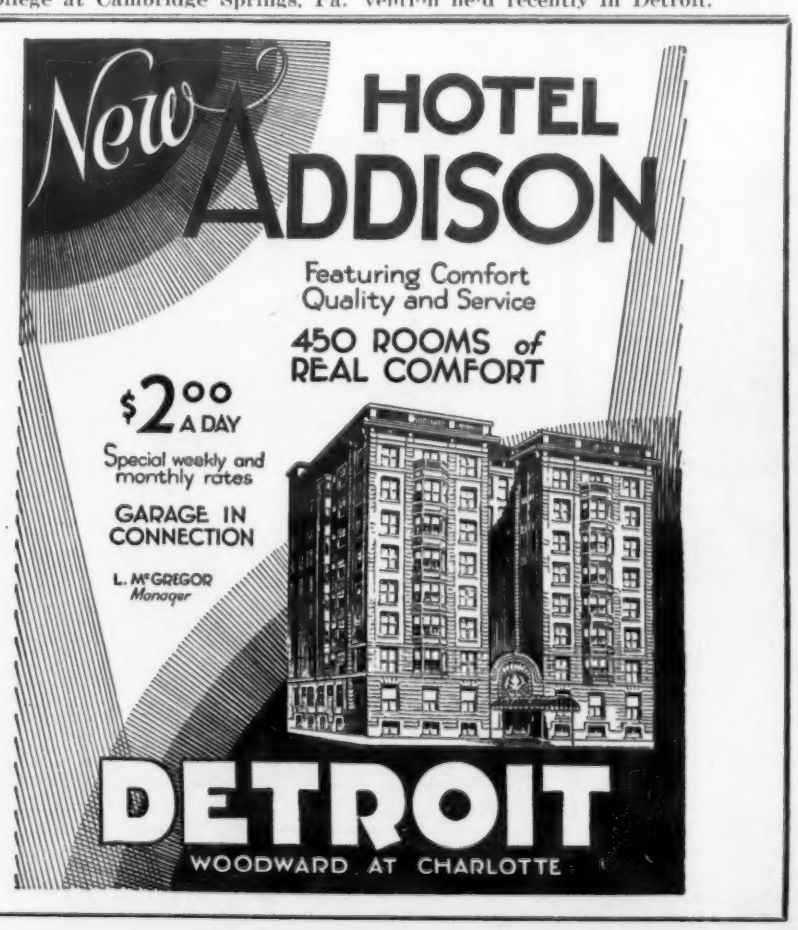
Detroit, Mich.—All game bagged by C. Hayward Murphy, president of the Detroit Fire Board and head of the Murphy Family Trust, will be properly preserved in his Grosse Pointe home, where a specially built refrigerator has been installed to keep game and foul at a zero temperature.

The Chrysler-Koppin cabinet has two separate compartments, one furnishing the zero temperature and the other providing the 50 degrees for ordinary food preservation. Both cabinets are operated from a ¼ h. p. type W Copeland compressor. The two temperatures are controlled by the use of a two-pressure valve.

LARGE SYSTEM PLACED IN LOUISVILLE STORE

Louisville, Ky.—The York Ice Machine Corporation, 707 First Street, has recently installed a $10,000 refrigerating system at the Springham Fish Company, 123 East Jefferson Street, owned by H. B. Springham. It was built especially to order to meet the needs of Mr. Springham, who really has an entire market under one roof.

There are several cold storage rooms, thermostatically controlled, and the freezing room for rabbits, fish and oysters is 30 by 50 feet, the temperature of which is kept above 32 degrees. Another room is devoted to butter, milk and cheese, while meats and vegetables are each kept in separate coolers.

STEBMAN COMPANY TO REPRESENT WARREN

Detroit, Mich.—Appointment of the Stebman Fruit Co. as distributor for Warren refrigerator cases has been announced by B. A. Greenspan, sales manager of the Warren Refrigerator Company. This announcement was made by Mr. Greenspan while he was attending the Copeland dealer and distributor convention held recently in Detroit.